RURALIZATION

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The opening of rural areas to renew rural generations, jobs and farms

D3.2 Detailed Conceptual Guidelines

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Table of Contents

Version history 2
List of Figures 5
List of Tables 5
Acronyms and abbreviations 5
Executive Summary 6
1 Introduction 8
1.1 Context 8
1.2 Purpose of this document 8
1.3 Structure of the document 11
2 Rural development and regeneration 13
2.1 Fundamentals 13
2.1.1 Understanding the 'rural' 13
2.1.2 Rural as a context for economic activities 15
2.2 Approaching rural regeneration 17
2.2.1 Regeneration: An introduction 17
2.2.2 Rural decline 19
2.2.3 Place-based rural regeneration 21
2.2.4 Place-based resources to support rural regeneration 24
2.2.5 Integrated rural regeneration 26
2.2.6 Complexity and interconnectedness 27
2.2.7 Participative process 29
2.2.8 Enabling desired futures 30
2.2.9 Pathways to rural regeneration 31
2.3 Emerging Concepts 34
3 Resilience 36
3.1 Context and relevance 36
3.2 Conceptualisation 38
3.2.1 Evolutionary resilience and local capacities to adapt 41
3.2.2 Aadaptability and transformation 42
3.2.3 Path dependence, lock-in and related variety 43
3.2.4 Evolutionary resilience and change processes 44
3.2.5 Evolutionary resilience and scale 46
3.3 Critique and implications 47
3.3.1 Scope to use and develop resilience thinking 47
3.3.2 Resilience outcomes and drivers 47
3.3.3 Human intervention, power, and resilience 48
3.3.4 Resourcefulness 49
4 Rural Innovation 51
4.1 Context and relevance 51
4.2 Conceptualisation 52
4.2.1 The nature of rural innovation 53
4.2.2 Rural innovation: Systems and individuals within systems 54
4.2.3 Innovation systems and translocal networks 56

4.2.4 Knowledge and innovation 58
4.3 Critique and Implications 59
4.3.1 Need for a fundamental policy shift 59
4.3.2 What kind of innovation is needed for rural jobs, social and economic opportunities? 60
4.3.3 Rural enterprise, innovation and regeneration: how and who? 61
4.3.4 Smart Specialisation and Smart Development 63
4.3.5 Transfer of innovation 64
5 Capital frameworks 66
5.1 Context and relevance 66
5.2 Conceptualisation 67
5.2.1 Community capitals framework 67
5.2.2 Territorial capital 71
5.3 Critique and implications 77
5.3.1 A synthesis – rural capital? 77
5.3.2 Capitals frameworks and resilience 78
5.3.3 Certain rural assets appear to need greater policy attention 79
5.3.4 Promising assets, but balance needed 80
5.3.5 Territorial capital and territorial cohesion 81
6 Conclusion: Resilient, Innovative Rural Regeneration 82
7 References 84

List of Figures

Figure 1: The ruralisation perspective....8
Figure 2: Conceptual basis of the ruralisation perspective....9
Figure 3: Key features of the equilibrium and evolutionary approaches to resilience....40
Figure 4: Resilience as a four-phase adaptive cycle....41
Figure 5: Nested adaptive cycles and cross-scale interactions....45
Figure 6: Framework for an integrated perspective on learning rural areas....55
Figure 7: Community capitals framework....68
Figure 8: The spiralling of capital assets....70
Figure 9: A theoretical taxonomy of the components of territorial capital....73
Figure 10: Traditional and innovative factors of territorial capital: (a) the 'traditional square and (b) the 'innovative cross'....74
Figure 11: Application of the Camagni territorial capital gramework in a rural policy context....76

List of Tables

Table 1: Ruralisation drivers, processes (concepts) and outcomes....10
Table 2: Key ruralisation concepts and sub-concepts....11
Table 3: Challenges and opportunities by type of rural region....22
Table 4: Approaches to rural regeneration....26
Table 5: Seven types of community capital....68
Table 6: Domains of rural development....75
Table 7: Multifunctionality and global indicators (selection) of well- and poorly developed economic, social and environmental capital....78

Acronyms and abbreviations

EAFRD	European Agricultural Fund for Rural Development
EC	European Commission
ENRD	European Network for Rural Development
EP	European Parliament
ESPON	European Spatial Planning Observatory Network
EU	European Union
OECD	Organisation for Economic Cooperation and Development
SAB	Stakeholder Advisory Board
UN	United Nations
WP	Work Package

Executive Summary

The RURALIZATION project will develop a novel perspective for rural areas to trigger a process of ruralisation as a counterforce to urbanisation. **Ruralisation is development towards a new rural frontier offering new generations stimulating opportunities for economic and social sustainability** in a rural context. It is the knowledge and innovations developed in the RURALIZATION project that will be key to understanding how ruralisation can occur and to unlocking new opportunities. RURALIZATION project deliverable 'D3.2 Detailed Conceptual Guidelines' details the cross-cutting conceptual terms that underpin the project overall.

The Conceptual Guidelines play two roles. The concepts provide the **foundation for the ruralisation perspective as a theoretical process** and provide a way to conceptualise the ruralisation process. The guidelines also offer potential **analytical tools for the RURALIZATION project**. The guidelines provide analytical tools that link to the overarching RURALIZATION project focus and for exploring the ruralisation concept in empirical contexts. In relation to more specific work package (WP) objectives, aspects can be drawn on to serve particular analytical purposes. Within WPs the guidelines provide a guiding starting point and can be further teased out in relation to WP specific needs and objectives. Deliverable 'D3.3 Review Report and Fact Sheets' and 'D3.2 Assessment Framework' also provide further resources that can inform specific WPs methodologies and analytical frameworks.

We justify the RURALIZATION project's outlook on ruralisation as a theoretical process using **four key concepts – integrated, place-based rural regeneration, resilience, rural innovation and capital frameworks**. This document details the context around each key concept, its conceptualisation, as well as critique. Each concept also links to other sub-concepts.

Underpinning ruralisation is the idea that **capital resources** and **innovation** are central to generating new opportunities in rural areas that support **rural regeneration**, but this must be underpinned by **resilience** to support the continued cycle of renewal of the rural population and economic activity. Underpinning the RURALIZATION project's perspective on ruralisation is the assumption that **generational renewal and rural regeneration go hand in hand**. The project sees new rural generations (youth, newcomers, new entrants and successors in farming) as the central drivers of ruralisation and new opportunities must be identified. The RURALIZATION project will therefore **explore how ruralisation can be realised within a set empirical focus**. The project is concerned with foresight analysis (trends impacting rural areas, the future dreams of rural youth), facilitating rural newcomers, farm succession and new entrants into farming and addressing the issue of access to land. From this basis, we will **develop understanding of how ruralisation may be achieved**. For example, we will better understand how new generations can be facilitated, what are the social and economic opportunities that may bring them to/keep them in rural areas, and what further drivers are important.

Ruralisation as a theoretical process may also be seen beyond the RURALIZATION project. Ruralisation is potentially a new paradigm within rural research. The concepts we identify as

part of this potential new paradigm provide a basis for ruralisation within current knowledge and the overarching objectives of the RURALIZATION project. These concepts direct us to ask certain questions, but empirical exploration of ruralisation will also likely raise new questions beyond their current parameters, calling for re-conceptualisation (e.g. different concepts, adapted understandings of concepts). Through the RURALIZATION work packages other related concepts more specific to their areas of focus may also be introduced.

1 Introduction

1.1 Context

The RURALIZATION project aims to look at ways to overcome rural decline issues that support rural regeneration and generational renewal. The empirical focus of the project is to develop, assess and disseminate novel instruments, strategies and policies that cater for rural regeneration, in relation to the **future dreams of rural youth**, facilitating **rural newcomers, succession** and **new entrants into farming** and by addressing the issue of **access to land**. It will also carry out a **trend analysis** to uncover relevant trends for rural regions. This knowledge base will culminate in generating effective policy tools, and through this the RURALIZATION project aims to contribute to the development of a **new rural frontier** that provides **exciting opportunities to new rural generations** for social and economic sustainability and to realise their dreams in a rural context. Overall, RURALIZATION develops a novel perspective for rural areas to trigger a **process of ruralisation as a counterforce to urbanisation** (see Figure 1).

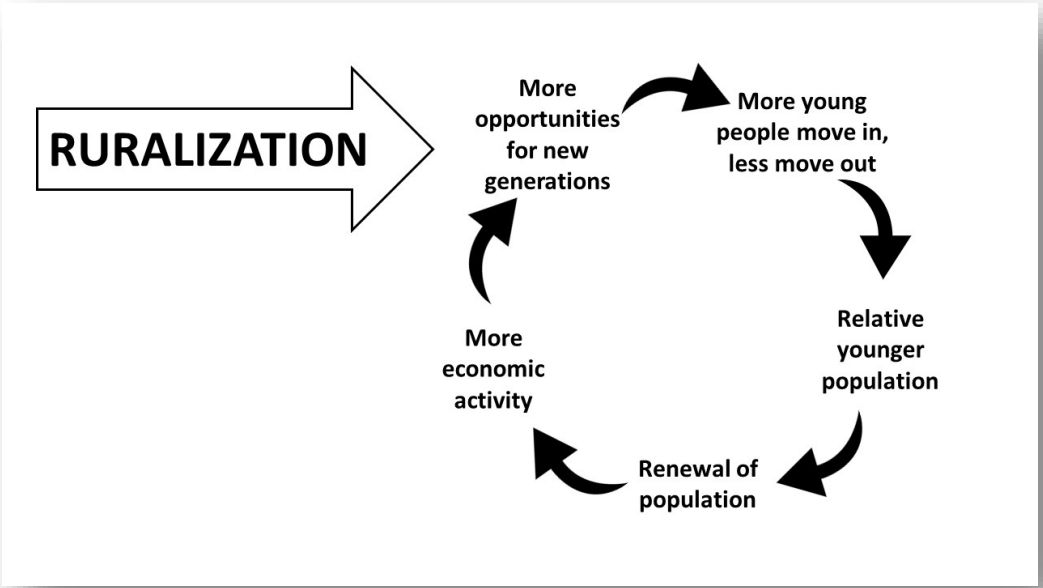

Figure 1: The ruralisation perspective

1.2 Purpose of this document

The 'Framework for Research and Innovation' that forms RURALIZATION WP3 seeks to ensure the research and innovation approaches in all WPs are well connected. This RURALIZATION deliverable 'D3.2 Detailed Conceptual Guidelines' provides the **common conceptual terminology** to be used in the project. **It details the cross-cutting conceptual terms that underpin the project overall.** The concepts provide the foundation for the

ruralisation perspective as a theoretical process. The concepts also offer analytical potential for the RURALIZATION project.

In terms of the foundation for the ruralisation perspective as a theoretical process, firstly, the document explores the concept of **rural regeneration** which is at the heart of the development of a new rural frontier. **Resilience and innovation emerge as central to how we conceptualise approaches to achieving rural regeneration**. We theorise that **innovation is needed to generate new opportunities** in rural areas that support regeneration, and certain capitals are needed to enable innovation and new opportunities. However, innovation and new opportunities also must be **underpinned by resilience to support the continued cycle of renewal** of the rural population and economic activity (Figure 2).

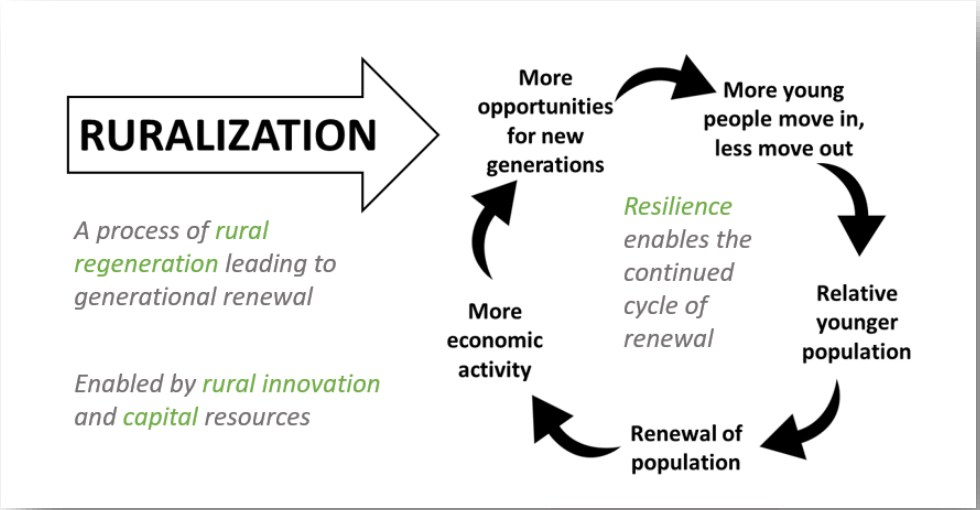

Figure 2: Conceptual basis of the ruralisation perspective

Concepts can be **theorised and defined differently** and **this document clarifies the RURALIZATION position**. For example, we understand innovation in the rural context as a diverse, both every-day and scientific process that can result in new solutions to decline problems and new sources of rural economic activity. We understand resilience and capital frameworks as contested and still evolving concepts. Certain aspects are highlighted that appear most useful for the purposes of the RURALIZATION project.

Another role of the Conceptual Guidelines is to provide a **basis to derive core principles** that form the **basis** of Deliverable D3.1, the **Assessment Framework** for the project. The Assessment Framework guides our selection of promising case studies and regions that could learn from these experiences.

We also discuss **specific aspects** of how these **concepts** are understood that **could offer analytical potential** for **specific WP tasks** to draw on, further deepen or use in tandem with

other concepts. RURALIZATION is exploring innovative practices in diverse areas - trend analysis, rural youth dream futures, facilitating rural newcomers, succession, new entrants into farming and access to land. The guidelines should therefore help to direct us to other core or complementary concepts of relevance to specific WPs. The guidelines do not preclude individual work packages from also introducing other related concepts more specific to their areas of focus. The **Conceptual Guidelines** also **work in tandem** with Deliverable D3.3 **Review Report and Factsheets**. This deliverable reviews definitions of wider terms of more specific WP relevance that WPs may develop more deeply. In addition, more specific attention will be given to use of the Conceptual Guidelines in a Practitioner Concept Guide.

As the RURALIZATION project progresses, as well as from the outcomes of the RURALIZATION project itself, we may identify new interpretations and ways to advance the key concepts utilised. These guidelines could guide us towards other important concepts that also become core to the project. **This document therefore provides *guidelines*** and is viewed in an open, reflexive way so that **concepts may still be further elaborated as the project progresses**. Important in the context of a multi-actor, multi-disciplinary project is that we practice an iterative, flexible approach to its conceptual foundations. The current conceptual basis is mapped out in Table 1 and 2 below.

Drivers and processes leading to ruralisation		
Drivers → ***Causes of better performing rural areas***	**Processes** → ***Influence and lead to better performance***	**Outcomes** ***Ruralisation – the development of a new frontier***
New trends and opportunities Rural youth future dreams Farm succession New entrants to farming Rural newcomers Access to land	Rural regeneration Resilience Rural innovation Capital frameworks *+ other emerging concepts in specific WPs*	Resilient rural regeneration Social and economic opportunities for new generations to realise their dreams Generational renewal of the rural population

Table 1: Ruralisation drivers, processes (concepts) and outcomes

Rural regeneration	Resilience	Rural innovation	Capital frameworks
Rural Multifunctionality Rural decline Place-based, integrated regeneration Neo-endogenous development Participatory governance	Evolutionary approach Change processes Adaptation Transformation Path dependence Resourcefulness	Rural innovation system Translocal networks Embedded intermediaries Knowledge	Community capital Territorial capital

Table 2: Key ruralisation concepts and sub-concepts

1.3 Structure of the document

Our first task is to unpack the **meaning and practice of regeneration** linked to a rural development context (**section 2**). Regeneration can be understood as a potentially transformative process, but fundamentally one that responds to rural decline challenges. Regeneration then links us to other key concepts underpinning the ruralisation process – resilience, rural innovation and capital frameworks.

The RURALIZATION project aims to contribute to the development of a new rural frontier and recognises the need for a novel perspective for rural areas under a transformative process of ruralisation. Rural decline must be alleviated, but the processes that lead to decline are not simple. The RURALIZATION project must work to deepen our understanding of the issues and process of rural decline and regeneration. **Resilience (section 3)** thinking has relevance both as a metaphor and a process. As a process, using more specific concepts (e.g. adaptability, transformation) within the resilience paradigm, are potentially attractive to help us to explain how promising practices facilitate new generations or why some rural areas perform better than others in matters of rural regeneration. As a wider metaphor it provides ways to think about and raise questions around the dynamics of how change happens. We do not understand resilience as aligned with the ecological understanding where human influence on change in a proactive way is not accounted for. Resilience can result from active reaction to change and is not just a passive response.

Ruralisation sees rural areas as a context for economic activities, not just focusing on traditionally 'rural' sectors such as agriculture and forestry, but also other multifunctional sectors such as tourism and diversification options as context for innovation and entrepreneurship. Regeneration can be understood as a transformative process and a key part of this are innovative practices that improve rural jobs and opportunities. This draws us

to explore the concept of **rural innovation (section 4).** Many have argued innovation is of critical importance as a driver of rural economy development and growth (e.g. Dargan and Shucksmith, 2008; Esparcia, 2014; Freshwater, 2016; OECD, 2014; 2018a; Interreg Europe, 2019).

The concepts of resilience and innovation also interlock, share some similar features (e.g. value local knowledge, see change as happening within a system of capacities and resources), and complement each other. Resilience provides useful ideas to frame what kind of innovation, social and economic opportunities are most applicable in a rural regeneration context. Innovation should improve the rural capacity to adapt and proactively respond to change, not just in the short term, but also over time. Innovation is important to drive regeneration and support longer term resilience.

A further way that both resilience and innovation interlock is that they highlight the role of capacities and resources in their realisation. For example, generating rural innovation needs a range of resources, what might be understood as expert and non-expert knowledge, alongside a network of different kinds of actors, such as social, economic and institutional (Esparcia, 2014). Rural communities and their resilience can be understood through the presence and intersection of place-based resources, such as economic, social and environmental capital (Wilson, 2010). This leads us to **capital frameworks (section 5)** as another key concept. We bring in both the community capitals framework and territorial capital. Camagni and Capello (2013, p.1399) explain the essence of territorial capital as "the assets on which actual local success is based". Drawing on the community capitals context (e.g. Braithwaite 2009; Flora et al., 2016), Copus et al. (2011a, 2011b) categorise territorial capital in seven forms – financial, built, natural, social, human, cultural and political. We also introduce community capital frameworks specifically as a key concept. Capital frameworks should enable a systematic focus on the drivers and process of regeneration. RURALIZATION anticipates this will prove a useful concept in the analysis of case studies and their transfer to other places.

2 Rural development and regeneration

A core aim of the RURALIZATION project is to develop a novel perspective for rural areas where a process of ruralisation as a counterforce to urbanisation triggers development towards a new frontier. The project must look at ways to understand and overcome rural regeneration issues and support generational renewal. This section focuses on the meaning of regeneration and pathways towards it. However before examining this, first we address some more fundamental issues – how we understand the 'rural' and how ruralisation sees it as a context for economic activities.

2.1 Fundamentals

2.1.1 Understanding the 'rural'

The 'rural' can be defined in many ways. For example, as a material, geographical space; an imagined, socially constructed place; or a multi-dimensional place that is at the same time material, imagined and socially experienced (Halfacree, 1993). French literature clearly demonstrates the changing definitions of what is rural (Mathieu, 2017). It varies in time (evolution of the dominant social representation of urban and rural values and relations) and space (historical and cultural ideology of rural/urban relationships, as demonstrated in the EU project RURBAN). In addition, major world events can have a disruptive effect on the dominant social representation and emergence of new terms to name rural and urban. For example after the Second World War, 'progress' was linked to urbanity, metropolis, peri-urban etc. Deep understanding of what is rural goes beyond rural as a type of space, region or area. The concept of 'milieu' is emerging as important when understanding the rural (as well as the urban) as an **'ensemble of milieu'** introducing **micro differences between places** as an entity (metropolis, big, medium and small towns, periurban, rural isolated or not etc.) by identifying the diverse combinations between their **material and social 'local' specificities** (Mathieu, 2017). Rieutort (2012) associates the notion of 'rurality' with the social construction of the rural, which is also fast changing as the rural evolves and dialectic urban-rural relations are important in new forms of rurality.

Beyond these more conceptual considerations, even when turning attention to rural as a space, limitations in definitions are almost inevitable because of the diversity of rural space and hence complexity of the task. For example, definitions using indicators such as population density to determine what is a rural area are problematic by treating rural as a homogenous space not offering an explanation of the nature of rurality, overlooking for example different rural area types (e.g. remote) and functions (e.g. agriculture) (Woods, 2005; Halfacree, 1993). At the EU member state level, rural is also defined differently and is reflective of local contexts. Debate will continue and this is important so that we can better identify rural development challenges and opportunities across different types of rural areas. Woods (2009, p.20) points out it has: "implications for the extent to which results can be generalised from case studies and claims made for rural Europe as a coherent space".

Ruralisation views the rural as a highly diverse space. Rural regeneration must be underpinned by an understanding of the **diversity of rural areas** (Pemberton, 2019). Understanding the development potential within the rural economy needs analysis based across the range of rural area types (Copus et al., 2011b). For example, Copus et al. (2011b) highlight that European rural areas are becoming more diverse and that in reality each rural area is unique. This might appear unworkable for devising appropriate policy; however arguments are made for **recognition of different rural area types and economies in how generalisations are made and policy is devised** (Copus et al., 2011b; Woods, 2009; Copus 2015; OECD, 2018a). Pragmatism has to come into play too, as other European research projects have also adopted (e.g. DERREG/Woods, 2009). Typologies are important here, with RURALIZATION making use of these to help determine the areas where more in-depth qualitative analysis will focus. This view also feeds directly into our construction of regeneration as place-based (see sections 2.2.3 and 2.2.4 below).

Rural diversity as a characteristic of rural economic space also has important regeneration value. Ruralisation's outlook on the rural is aligned with the importance of a multifunctional view of agriculture and rural areas (van der Ploeg and Roep, 2003; Wilson, 2008; Wilson, 2010).

Multifunctional agriculture has functions beyond food production, including a range of wider functions, such as contributing to the creation of rural areas as places of consumption. Multifunctionality of agriculture, and the public goods and services (e.g. cultural landscapes, biodiversity, soil and water quality preservation) this creates according to Wilson (2008) offers rationale for CAP farm support. Highly multifunctional rural areas more broadly have strong economic (e.g. diversified economies, low dependency on external funding) social (e.g. gender equality, good services, strong community) and environmental (e.g. strong biodiversity, water and soil quality) capital resources. **Multifunctionality** also supports resilience because of the diverse functions it supports in rural areas (Wilson, 2012). The nature of multifunctionality in rural areas has evolved along different trajectories, some with greater regenerative development potential (van der Ploeg and Roep, 2003; Wilson, 2008). This is further discussed in relation to pathways in section 2.2.9 below.

Ruralisation views rural space as highly diverse, but also as a relational space. This sees rural space as composed of interconnected relations. Seeing rural as a relational, dynamic space rather than an absolute space offers a way to frame and explain its complexity.

In the urban context, Furbey (1999, p.428) outlines that regeneration also has a spatial dimension: "it widens the focus from local area-based action to entire cities and regions". Similarly, in a rural regeneration context understanding the rural must take account of 'relational rural' thinking. In rural studies, this 'relational turn' sees rural space not as a place with boundaries around it but as a dynamic, changing space of interconnected relations (Woods, 2007; 2011; Heley and Jones, 2012). Woods (2011, p.291) explains "The rural is not a pre-determined and discrete geographical territory and neither is it a fantasy of the imagination. Rather, viewed from a relational perspective, the rural comprises millions of

dynamic meeting-points, where different networks, and flows and processes are knotted together in unique ways". A relational view of rural space does not see dichotomies between for example urban and rural, local and global, nature and society, but they are related and a range of processes, political, economic, social and cultural, impact interactions (Woods, 2011; Heley and Jones, 2012). Taking the family farm as an example, Woods (2011, p.291) describes it as "an entanglement of social and economic processes, labour and family relations, cultural conventions and landscape practices, that has material form, performed expression and discursive symbolism as an icon of rurality".

2.1.2 Rural as a context for economic activities

The RURALIZATION project sees rural areas as a context for economic activities and here the project is looking for innovative practices that improve rural jobs and opportunities supporting rural regeneration. For ruralisation, the rural must be a diverse productive space. Rural can be a place of consumption, but it is not solely a place of consumption, nor of primary production.

While still a key part of the rural economy, the idea of a rural economy predominantly based around land cultivation is a stereotypical view that does not match the diversity of the new rural economy (Copus, 2015; Atterton, 2016). For example, identified as part of the EDORA project are four rural economy types: agrarian; consumption countryside; diversified (with important secondary sector); and diversified (with important market services sector). In 'agrarian' regions "land-based industries as producers of food and fibre remain central" while in consumption countryside regions they have been "re-orientated towards a multifunctional role, in which 'consumption' of countryside public goods is an increasingly important driver" (Copus, 2015, p. 22). The two types of 'diversified' regions "reflect a further stage of structural adjustment, in which the rural economies converge with those of urban areas, through the expansion of secondary or market services activities" (Copus, 2015, p. 22). In seeing **rural areas as a context for economic activities**, **the RURALIZATION project does not limit itself to only primary production of agriculture and forestry, but also looks at the wider range of activities** in rural areas (as reflected in the pathways discussed in section 2.2.9 below). Diversification of the rural economy is important in the ruralisation process.

The ruralisation process also recognises the special role of primary production at the core of the rural as a context for economic activities.

Recognising the special role of primary production in ruralisation might at first seem contradictory to observations showing the declining economic role (e.g. jobs, GVA) of primary production in the rural economy (e.g. OECD, 2014; Perpiña Castillo et al., 2019; Schuh et al., 2019). Agriculture is also implicated in problems of rural environmental decline (Ferreira et al., 2019; Marsden, 2012). Viewed more comprehensively, agriculture is still part of the bedrock of the rural economy. From a broader cultural and environmental

perspective, **farming is a multifunctional activity central to the creation and preservation of a range of rural assets, such as cultural landscapes and heritage, as well as sustainable land and wider natural resource management** (Ventura et al., 2008; Wilson, 2008; Marsden, 2012; European Parliament, 2017). The rural environment is also important to rural attractiveness and amenity migration (Gosnell and Abrams, 2011). Primary production creates an environment that makes rural attractive as a place of consumption. This links to the RURALIZATION project's focus on rural as context for economic activities that does not exclude rural newcomers who are attracted to a rural lifestyle first and search for a way to economically support this lifestyle second. Nevertheless, agriculture can simultaneously be constructed both as part of rural decline problems and the generation of positive rural assets. However, scholars such as Marsden (2012) and van der Ploeg (2010) argue a re-arrangement and re-prioritisation of how resources (economic, social and environmental) are treated within agriculture is important for **agriculture to become part of the solution to integrated rural regeneration**. Marsden (2012, p.260) for example argues a key issue is how agriculture has been treated as a sector, overlooking the **interdependencies between human, cultural and ecological systems in agri*culture*:** "We can no longer divorce agricultures from the wider social and ecological spaces in which they are created, or from the complex interdependencies they help to sustain". A more integrated view is called for recognising the problems of agricultural decline (e.g. low incomes, environmental degradation), but also interdependencies and how agriculture can be part of the solution if the focus is placed on developing "sustainable agricultural systems" capable of bringing "multiple types of benefits (e.g. social, economic and environmental) to rural regions" (Marsden, 2012, p.260).

> Ruralisation sees primary production as an important part of rural regeneration. But a shift is also needed to recognise its wider value and deal with decline issues (e.g. environmental, social and economic), while also adapting systems to more sustainable models. This also points to the special position of the rural environment as part of rural areas as a context for economic activities and a diverse productive space.

Rural areas are users, but must also be guardians of environmental resources. Innovation emerges here of central importance to finding the necessary solutions, and to develop rural places as a context for diverse economic activities. Innovation holds the potential to contribute to the creation of not just new, diversified rural economies less reliant on traditional sectors, but rural economies where in addition to economic growth, other objectives are pursued alongside this, such as: "quality of life, happiness and sustainability" (Atterton, 2016, p.213).

This positons the rural regeneration agenda as part of a wider, global sustainable development agenda. This also requires a different outlook on growth. For example, the 2030 Agenda for sustainable development is clear **that sustainable economic growth must de-link growth from environmental degradation** (United Nations (UN), 2015). In the RURALIZATION context we are interested in opportunities that support economic and social sustainability. **Rural growth must be fostered in a way that supports sustainability** (Cork 2.0 Declaration, 2016). Regeneration also does not necessarily mean growth will be the

outcome. For example, in the context of shrinking European rural regions and smart, innovative approaches to their development, ESPON (2017) argue that there are two policy orientation choices – aim for growth and reversal of decline or accept decline and adapt to cope with it. ESPON (2017) also suggest that while politically unpalatable, in some cases it may be more logical to focus on managing decline. For ruralisation, growth and development is not understood in narrow economic terms. In relation to innovation, ruralisation sees ecological and social innovation at the centre of rural regeneration. Regeneration does not aim for unfettered growth but for resilient growth. If sustainable, balanced growth opportunities can be found then they will support rural regeneration and rural resilience.

A final important note is that the rural is not solely a context for economic activities. New generations of rural inhabitants are also central to the ruralisation process. Therefore for ruralisation, rural is not only a productive space and context for economic activities but a society (or societies) gathering inhabitants (individual, families and households, associations etc.). Important is the capacity of 'rural societies' to adapt to and engineer social change, to find solutions and move towards for example a sustainability 'utopia' (Mathieu, 2009). In this context, understanding rural society today needs to introduce new and combine concepts. Key questions include what actors hold this capacity, who and what aims do responses serve. For example, our core concepts of resilience, adaptability and resourcefulness (see section 3) might be fruitfully combined with more nuanced concepts such as way of inhabiting (mode d'habiter). Mathieu (2014) develops the 'mode d'habiter' concept as a more nuanced way to understand human-environment interactions which rather than viewing places and environments separately, way of inhabiting sees this relationship as dialectical where a set of evolving relationships existing in-between places and environments. The notion of inhabitants is introduced to emphasise the active 'act' of inhabiting which links back to values, desires and choices. It is described as having four dimensions - inhabiting and working, dwelling, circulating and living together.

2.2 Approaching rural regeneration

In the previous section, we positioned ourselves in relation to understanding the 'rural'. We also looked at how ruralisation sees rural areas as a context for economic activities. This sets us up to now look at **the rural regeneration process and approach**. Here we also briefly explore how urban regeneration is understood, alongside some key aspects of rural development theory. Additionally, we discuss its complexity, as well as some of the contradictions that emerge between concepts and practice.

2.2.1 Regeneration: An introduction

Regeneration is a term that can be used broadly and substituted by others. Many terms are used in studies that link to rural regeneration, such as rejuvenation, revival, revitalisation and renewal (Osborne et al., 2004; Li et al., 2016; Li et al., 2019; Shand, 2016). Urban renewal, revitalisation and renaissance are terms also used in the context of urban regeneration (Tallon, 2010; Magalhães, 2015). **Some researchers have highlighted an explicit focus on**

rural regeneration is lacking in rural studies, while is comparatively well developed in urban regeneration contexts (Pemberton, 2019; Scott et al., 2019a; 2019b). While closely related, and perhaps somewhat a consequence of this, **rural development and regeneration are not well distinguished nor is the process of rural regeneration well defined** (Pemberton, 2019). Woods (2005, p.146) observes that the terms 'development' and 'regeneration' are used similarly but they "imply distinct processes" and identifies a distinction between them: "'Development' "suggests a process of progressive change or modernization" and 'regeneration' "suggests a more cyclical process…a buoyant economy has fallen into decline and requires remedial action" (Woods, 2005, p.146).

Regeneration is distinct from re-development (Pemberton, 2019). For example, regeneration responses to decline of industries such as mining call for development of new economic activities to generate employment (Bennett et al., 2000).

> Regeneration should enable transformation, be it on a smaller or larger scale that allows places to reach their potential. Rural regeneration is more than just reversing decline, or trying to restore a previous state of development, but implies a process of transition and more positive reinvention or revival. Regeneration must respond to the need to re-make, to transform in response to decline.

Regeneration can be theorised as an ambitious, transformative process. Looking at spiritual associations with the term, Furbey (1999, p.421) concludes regeneration "implies a profound remaking". Furbey (1999) highlights how the notion of regeneration can also be associated with biological thought and ideas around evolution and ecological systems. In the context of urban regeneration, Furbey (1999) reflects on regeneration as a powerful metaphor, an ancient term for potentially radical change implying reinvention of old ways, rebirth, reconstitution, transformation and revitalisation. There is an implication within urban regeneration that addressing problems of urban decline "should be constructed with a longer-term, more strategic purpose in mind" (Roberts, 2000, p.18). It seeks to **bring about lasting improvements** in response to decline where there is genuine transformation towards new frontiers (Roberts and Sykes, 2000; Furbey, 1999). **Rural regeneration then becomes strongly aligned with rural planning**. Healy (2015, p.205) discusses how planning is "…profoundly committed to changing the ways things are, to transforming realities, whether those of cities or their governance. It is inherently normative in its value orientation, infused with the belief that deliberately designed actions today can have beneficial impacts tomorrow".

There has also been a divide in practice between **regeneration rhetoric and reality**. In practice, it can fall short of the ideal of being a transformative process. In practice, it can drive more or less radical change (Furbey, 1999). In the context of urban regeneration, Furbey (1999, p.420) describes regeneration as 'an elastic canopy' capable of providing "shelter for a highly varied social and political values. Yet in practice, the shelter is not infinite and some are still left standing outside". The divide between rhetoric and reality is also influenced by the policy environment. In real policy terms it can need to be more rigidly tied to delivering objectives within a timeframe that need to be linked to measureable outputs

(Furbey, 1999). In the context of small town regeneration Powe et al. (2015) highlight that longer-term responses are needed to address the challenges of regeneration yet this is limited by the transitory nature of government support for regeneration.

2.2.2 Rural decline

A key distinguishing feature of regeneration identified in both urban and rural contexts is that it focuses on **interventions that address problems of decline** (Roberts, 2000; Woods, 2005; Tallon, 2010; Magalhães, 2015; Pemberton, 2019).

Problems of decline create the need for regeneration. Rural decline has a number of dimensions.

One dimension of **rural decline** is related to the **rural population**. Rural population decline, such as because of out-migration, is observed as particularly strong in peripheral, remote, rural areas far from cities (Copus et al., 2011b; Stockdale, 2006). More specifically, changing population structure or rural demographic decline, where there is out-migration of rural youth and an ageing population is a key issue (OECD, 2018b). Bock (2016) discusses the problem of depopulation in marginal, declining rural areas, but observes that more precisely this can be a problem of unstable (e.g. tourists, migrants) or unbalanced (e.g. youth) population. Evidence also exists that out-migration of young females is more prevalent (e.g. Wiest et al. 2013; Leibert 2016; Johansson, 2016). In farming particularly, the age profile of farmers in the EU is an issue with a high proportion nearing retirement age - 31% of farmers are over 65 and just 5.6% of farms are run by farmers under 35 (EC, 2017b). Averting the decline and supporting the renewal of younger generations in agriculture and rural areas is a key issue of concern for European rural development policy (ENRD, 2019b; Bori, 2019).

Decline of rural population is also a precursor to **broader decline issues in rural society**. Lack of critical mass of population can also lead to the knock-on effect of rural service decline (Interreg Europe, 2019). Bock (2016, p.557) outlines how in declining rural areas, beyond economic considerations the ageing structure and overall decline of population is an issue with multiple implications for rural regeneration, impacting "the reservoir of social and cultural capital, which, in turn and on the longer term, may be expected to undermine the community's capacity to act and regenerate". In addition to this, a declining, ageing population can also: "result in a loss of socioeconomic and political power when losing residents goes along with being cut off from the residents' internal and external relations and resources" (Bock, 2016, p.557). An ageing population means working age population is lower impacting human labour market capital, but it also increases demand for health and social care services (OECD, 2018b). It is important for rural regeneration to tackle problems of social exclusion that go with rural decline problems to avoid rural regeneration that marginalises some and benefits others. For example, the 2030 Agenda for sustainable development states that people who are vulnerable must be empowered, such as youth, older persons, refugees and migrants (UN, 2015). Eurofound (2019) argues that policy ambitions for rural generational renewal and economic regeneration must not be too single

minded in pursuit of opportunities such as for rural youth and entrepreneurial newcomers. Policy should also focus on improving quality of life of the elderly and existing rural residents such as improving service access and developing social amenities.

Rural economic decline is often framed in terms of how the rural economy has not diversified, failing to capitalise on its potential as both a place of production and consumption, still reliant on traditional, primary production sectors (Li et al., 2019). In economic terms (e.g. jobs, GVA) the declining role of primary production in the rural economy is well documented (e.g. OECD, 2014; Perpiña Castillo et al., 2019; Schuh et al., 2019). Decline in other sectors, such as manufacturing and public sector employment are sometimes overlooked but an important part of rural economic decline in some rural regions (Hedlund and Lundholm, 2015). Rural economies must also transition away from carbon-intensive industries finding new sectors to support lost rural jobs (Scott, 2013; Bennett et al., 2000). Economic decline is also a problem linked to the quality of rural jobs and the livelihoods they offer. For example, Matthews (2013) argues part of the young farmer and new entrant problem is not a lack of interest in farming as a profession, but not enough farm systems that offer a reasonable income. Economic decline also has a gender dimension. A gender gap in opportunities exists for young women in rural areas and agriculture demonstrated by higher rates of female unemployment identified in rural areas (Heggem, 2014; Leibert 2016; EIGE, 2017). Economic decline can also be linked to unequal access to resources. Land concentration is one example where the trend of land ownership concentration and globalisation of land is a European policy concern. Its broader distribution is an important requirement for the future of the European family farm model of multifunctional agriculture (European Parliament, 2017).

From looking at rural demographic, social and economic decline the cross-cutting issue of generational renewal emerges as central to tackling rural decline and creating regeneration.

A lack of generational renewal and demographic decline has knock-on impacts on the age, skill level and gender composition of the rural workforce decreasing the working age population, eroding human capital and leaving access to talent for potential or existing business challenging (Interreg Europe, 2019; Copus et al. 2011b). There is also strong ambition within policy discourse around how generational renewal can transform agriculture and rural areas more broadly, contributing to rural regeneration. Bori (2019) describes generational renewal as a precondition for agricultural and rural social sustainability. The European Network for Rural Development (ENRD) (2019) argues rural youth, and young farmers particularly, can support rural vitality, prosperity and stronger value chains. Generational renewal is heralded as: “one of the preconditions for improved competitiveness of the agricultural sector over the longer term and for sustainable food production in Europe” (ENRD, 2019b, p.2).

Rural environmental decline must also be positioned strongly among rural decline issues. Rural areas are where natural resources, such as land and water, are concentrated (OECD, 2018b). Natural resources are central to rural development where it “reproduces and further

develops these resources" (van der Ploeg et al., 2008, p.4). The agri-food economy depends on nature, such as land and water resources, but also contributes to environmental problems through resource depletion and contributes to 21% of global greenhouse gas emissions (Ferreira et al., 2019). UNCCD (2017) identify a global crisis in land resources and the need for a shift to within biophysical limits. The place of global agriculture as part of the problem is made clear; it is positioned as undermining environmental sustainability.

2.2.3 Place-based rural regeneration

There is a strong move in both academic and policy-oriented discussions **towards solutions sensitive to local context,** in the context of rural generational renewal (e.g. Eistrup et al., 2019) and wider rural policy (e.g. Copus and de Lima, 2015). Regeneration also should take a place-based approach. The place-based nature of rural regeneration is not unique to the rural context, but a wider feature of regeneration. Urban regeneration sees each urban area as unique; approaches cannot be transplanted between places (Roberts, 2000). Urban regeneration stems from understanding urban decline as "problems *of* that locality rather than as economic, social, or environmental problems that happened to take place in that locality" (Magalhães, 2015, p.919). Regeneration should recognise local context (Tallon, 2010). For example, rural areas lack a critical mass of population and enterprise to maintain services and institutions at the level found in urban areas (Interreg Europe, 2019). But dealing with this issue would benefit from locally tailored strategies largely because local circumstances differ across the EU (Küpper and Tautz, 2015). But this does not mean completely novel approaches must be developed and applied in all places. The RURALIZATION project is therefore looking for **innovative solutions to common problems which are capable of calibration to local circumstances** (Roberts, 2000).

While the place-based approach is similar to regeneration in urban contexts, this also must reflect the distinct nature of rural place and decline problems. Pemberton (2019) identifies the distinctiveness of rural space itself as one of the key features that differentiates rural from urban regeneration. The **geography of rural areas impacts resources for regeneration and how responses should be designed**. For example, poverty and exclusion in rural areas tends to be dispersed which makes traditional, area-based community development approaches to community regeneration focusing on interventions in particular deprived areas a less appropriate means of engagement (Shucksmith, 2000; Pemberton, 2019). Spatial differences across rural space also impacts regeneration potential. For example, based on the OECD typology that classifies three types of rural space, different challenges and opportunities can be identified (see Table 3).

Type	Challenges	Opportunities
Rural inside a functional urban area (FUA)	• loss of control over the future • activities concentrate in the urban core • loss of rural identity	• more stable future • potential to capture benefits of urban areas while avoiding the negatives
Rural outside, but in close proximity to a FUA	• conflicts between new residents and locals • may be too far away for some firms, but too close for others	• potential to attract high-income households seeking a high quality of life • relatively easy access to advanced services and urban culture • good access to transport
Rural remote	• highly specialised economies subject to booms and busts • limited connectivity and large distances between settlements • high per capita costs of services	• absolute advantage in production of natural resource-based outputs • attractive for firms that need access to an urban area, but not on a daily basis • can offer unique environments that can be attractive to firms and individuals

Table 3: Challenges and opportunities by type of rural region

Source: OECD, 2016, p.146

The OECD (2018a, p.1) has also argued that **place-based development focused on number of different rural area types** is necessary, which can "unleash growth potential that is grounded in rural specific assets". This does not depart from the view presented in section 2.1.1 and 2.1.2 above on the importance of taking a multifunctional view of agriculture and rural areas and seeing rural areas as a diverse context for economic activities, where primary production of agriculture and forestry can exist alongside a range of wider activities (e.g. tourism, creative economy, knowledge economy). However, Naldi et al. (2015, p.91) identify a research gap around "factors that can influence growth potential in a diverse set of rural regions".

Opportunities for regeneration can also differ depending on the specific type of rural region in spatial terms, as well as the specific assets it possesses (e.g. natural resources, human capital, cultural heritage, nature-based amenities). The RURALIZATION project is also conscious that regeneration may be approached differently in different types of rural areas and seeks to further understand this.

Rural areas within predominantly urban regions and intermediate regions close to urban areas can benefit from development of mutually complementary resources in rural and urban areas (OECD, 2013). **More predominantly rural and remote rural regions perhaps have more challenges to overcome in attracting new generations as they cannot benefit from what nearby urban areas offer (e.g. jobs, services**). For example, Sørensen's (2018) examines the importance of place-based internal resources to population development in different types of small rural communities finding a range of internal capitals are important in "predominantly rural municipalities. For these rural parishes, physical capital, economic capital, economic capital and human capital had a significant positive effect on population growth" (Sørensen, 2018, p.85). However, the range of capital found to be important in rural areas in predominantly urban municipalities is more limited suggesting external factors are more influential "only symbolic capital (as measured by place reputation) had a significant

impact on population growth" (Sørensen, 2018, p.85). However as Li et al. (2019, p.138) describe while "Villages of favorable geographic conditions, i.e. situated close to large urban agglomerations, and having natural resource endowments have more chances to become prosperous" other factors come into play to determine if alleviation of decline is sustained: "it is the local people by way of their knowledge, capability, willingness and resolutions that decide whether the prosperity can be maintained and sustained". The key is to find ways to maintain or gain the capacity for rural areas to stay resilient in the face of trends that create challenges and threaten resilience such as globalisation, urbanisation and climate change (Li et al, 2019).

Remote rural regions are described as challenged in terms of distance to core markets, dispersed economic activity and population, which also impacts network development, as well as limited services alongside higher cost of delivery (Naldi et al., 2015; Atterton, 2016; OECD, 2018a). But these regions also have innate regeneration potential. They often hold strong natural resources which can provide a basis for new economic activity, such as nature-based amenities and green energy (Atterton, 2016). An important trend influencing regeneration in remote contexts is that **digitisation is changing how being geographically distant in rural places impacts development, offering opportunities to overcome some traditional distance-dependent limitations**, **as well as opening up potential new opportunities**. Copus and de Lima (2015, p.6-7) observe a shift in understanding how distance impacts social and economic relationships with **physical distance, being located close or remotely in space, as less important where there is now 'relational proximity' and other ways that connect us** being elevated such as **social or cultural closeness/similarity**.

However, **broadband access is still a crucial resource to overcome challenges and harness social and economic opportunities in remote rural regions**. But access can be poor in these same regions (Townsend et al., 2015; Vironen and Kah, 2019). Equally, the rural digital divide can impact other types of rural regions, but because of the particular challenges in remote areas, poor broadband access means particular new opportunities cannot be unlocked. For example, McCann and Ortega-Argilés (2015) outline how **some (albeit limited because of scale) possibilities exist for smart specialisation approaches in remote regions**. They mention non R&D-driven innovation, such as environment or tourism sectors, as well as the central role of wireless information communication technology (ICT) to provide connections to less remote regions (McCann and Ortega-Argilés, 2015). Naldi et al. (2015, p.95) also observe that the basis of smart specialisation in remote regions must build "specialized links to urban supply and demand" and also depends on local social capital and external networks. They also mention creative industries as a potential area of specialisation. However, the ability of creative sector entrepreneurs to develop their livelihood and do business (e.g. transmit content) in remote regions can also be limited by broadband access (Townsend et al., 2015).

When compared to remote rural regions, **intermediate regions** display perhaps greater opportunities for development in response to decline. The emergence of a 'knowledge economy' that depends on the generation and exploitation of knowledge is associated with opportunities for intermediate regions where these regions can benefit positively from

nearby urban regions (Li et al., 2019; Naldi et al., 2015). This might take the form of 'smart specialisation' strategies. McCann and Ortega-Argilés (2015, p.1298) discuss smart specialisation in regional policy contexts and how in intermediate regions (with both urban and rural areas) it appears an appropriate opportunity in the context of industrial production and R&D-driven innovation. Smart specialisation would seek to "promote technological diversification amongst the most embedded industries which have relevant scale to generate significant local impacts" as well as needing "a sufficiently large population base…to generate agglomeration or network effects".

2.2.4 Place-based resources to support rural regeneration

Looking more directly to rural development theory, this offers a way to further unpack the place-based nature of rural regeneration and the role of different kinds of resources within the regeneration process.

Capitalising on place-based resources (new and existing) is an important aspect of the OECD's 'new rural paradigm' of rural development (OECD, 2006). This approach places emphasis on the distinctiveness of places, the goods and services they produce and diversification of the rural economy into multiple sectors (rather than development focused predominantly on the agricultural sector) with a focus on 'multi-functional' agriculture (OECD, 2006; Horlings and Marsden, 2014; Gkartzios and Lowe, 2019). Given the importance of a place-based approach to rural development, this is also important in a regeneration context.

In theoretical terms, this shift to focus on place-based resources as part of rural development is described as **endogenous development**. This is a move towards **valuing and harnessing 'bottom-up' local resources.** This moves away from an 'exogenous' or 'top-down' approach that is focused around development of economic sectors (such as productivist agriculture) which sees the drivers of development originating outside of rural areas, a rural dependency on urban areas and food production as the main function of rural areas (Gkartzios and Lowe, 2019). A further, but related concept has also been described, the **neo-endogenous** model that is somewhat of a hybrid. It brings the endogenous model with it and in some ways bridges deficiencies left behind in the exogenous model. According to neo-endogenous development, **local resources should be the starting point for development, but with a consciousness that development is also influenced by non-local forces**. The 'extra-local' environment, such as national and European funding or political actors, also has an important influence (Gkartzios and Lowe, 2019). Ray (2006) specifically discusses the scale at which resources for neo-endogenous rural development should be sourced. This does not depart from a 'bottom-up' pathway, but is firmly rooted in it: "the search for development resources and mechanisms focuses on the local territorial level" (Ray, 2006, p.278). In rural development (economic or otherwise) the goal is to **"maximize the retention of benefits with the local territory**" (Ray, 2006, p.278). This approach also has benefits to potentially accessing greater financial capital for regeneration. For example, small and medium enterprises dominate the rural economy meaning access to significant private capital for regeneration can be more limited (Pemberton, 2019). Similarly, drawing on some lessons from successful rural town regeneration projects, Woods (2005) suggests drawing on local

and external resources is important for success, but drawing on external financial resources should not compromise the locally-led nature of regeneration.

Regeneration has been described as aligned with the endogenous and neo-endogenous theories of rural development (Woods, 2005; Ray 2006; Pemberton, 2019). Ray (2006, p.278) describes neo-endogenous rural development as almost synonymous with regeneration "the pursuit of socio-economic vibrancy…the socioeconomic regeneration of territories". But more recent thinking suggests there is still need for acknowledgment and focus on the role of exogenous resources. Even while acknowledging the place of external influences, as per neo-endogenous rural development; it is argued there is danger of not capturing development opportunities if too narrowly focused on local resources.

OECD (2018a) point to the need for policy to enable rural areas to **tap into opportunities created by globalisation**. A perspective proposed by Bock (2016), termed a 'nexogenous' approach to rural development, takes account of this issue. In the context of social innovation, Bock (2016) demonstrates the **importance of external ideas and resources to social innovation in rural places**. Local, endogenous resources are crucial to realising innovations but the source of the innovation, such as a new business model, can be external, or exogenous. The nexogenous approach sees the fundamental importance of socio-political connections that are bound together across space as a driver of rural revitalisation: "The linkage and collaboration across space give access to exogenous resources, which allow for vitalisation if matched with endogenous forces" (Bock, 2016, p.570). The **importance** of this approach is **emphasised in marginal rural areas**, where social innovation and locally driven solutions are "seriously hampered if…understood simply as self-help and an indication that marginal rural areas have to rescue themselves" (Bock, 2016, p.570).

In practice, rural regeneration's position within the core conceptual models of rural development (exogenous, endogenous and neo-endogenous), hence the type of resources it draws on, **has not been implicit or fixed**. This depends on the approach to regeneration taken (see Table 4). For example, regeneration that focuses narrowly on tangible, physical resources, such as property or built infrastructure, with non-participative governance and external expert design, would be aligned with a 'top down' or exogenous rural development model. Based on the evidence outlined above, it suggests distinct local resources must be harnessed. External networks must be developed because external resources and ideas can also play a valuable role. Understanding rural regeneration should take account of these perspectives to better understand issues of rural regeneration and further explore local circumstances and drivers that lead some rural areas to perform better than others.

Rural development model	Rural regeneration approach examples
Top down (Exogenous)	Property-led regeneration: Rural Renewal Scheme in Ireland that aimed to tackle population decline through housing development. However the scheme is criticised for lacking assessment of local need, as well as top-down design and implementation (Gkartzios and Norris, 2011).
Bottom-up (Endogenous)	Community-led regeneration: Mearns Area Partnership in Aberdeenshire, Scotland is a partnership between private, government and non-government that works to identify and address community needs from the bottom-up (McArdle, 2012).
Bottom-up, but also top-down (Neo-endogenous)	Small town regeneration: Upper Calder Valley Renaissance project in West Yorkshire, Northern England underpinned by a long-term (10 year) locally and externally developed regeneration strategy underpinned by collaboration between towns (Powe et al., 2015).

Table 4: Approaches to rural regeneration

2.2.5 Integrated rural regeneration

The rationale for place-based rural development also links to the need for **integrated regeneration. This can better balance development where social and economic sectors are not dealt with separately** (Ray, 2006). It moves away from the assumption that "socio-economic problems can be solved by standard measures, regardless of location or culture" (Ray, 2006, p.278).

For example, looking at how the rural generational renewal problem is described, the interconnections between society, economy and culture are clear, highlighting the relevance of an integrated approach. In the context of the CAP, Bori (2019) describes how generational renewal is multidimensional in its aims. It is focused on improving rural and agricultural innovation and competitiveness. It also seeks to maintain viable food production and broader viability of rural areas. Dwyer et al. (2019) describe generational renewal not just in terms of young people wanting to farm, but that their farms positively support their local economy and community.

The need for an integrated approach is not unique to rural regeneration. Urban regeneration is conceptualised as requiring an integrated approach. Tallon (2010) argues regeneration should see interconnections between social, cultural, economic, physical and environmental problems and describes it as having four main interconnected dimensions (economic, physical/environmental, social/cultural and governance). Furbey (1999, p.440) uses the analogy of the body stating: "In organicist terms, the whole body requires attention, not only the most visible extremities". Regeneration should ideally be multi-dimensional and integrated, seeking to develop mutually supportive measures that assist with alleviation of a number of aspects of decline. It should work to simultaneously support physical, social, economic and environmental regeneration (Roberts, 2000).

The need for integrated regeneration responses, where multiple drivers may need to change, also suggests regeneration needs time. In the face of the complexity of decline issues, simple, quick fix solutions will not tackle rural decline issues.

Regeneration should avoid short-term project based initiatives which are fragmented; rather they should be integrated within a wider strategic framework for development (Hausner, 1993). Furbey (1999, p.428) outlines how regeneration has a temporal dimension: "not a quick mechanistic fix but a long-term organic process", also in functional, substantive terms it should make "connections between the physical and economic-well-being of cities and issues of society, community and institutional development". In the context of small town regeneration Powe et al. (2015) note how existing research has shown because of its complex and multidimensional nature, it can require **longer-term interventions where results are slow to emerge**. Short-term initiatives mean that once the funded period ends continuing the process of regeneration is left to local agencies and communities.

Depending on local needs and rural decline issues, regeneration can be tailored and focus on particular resources more deeply or in combination. For example Evans and Shaw (2004) classify culture's contribution to regeneration in three ways – culture-led regeneration (culture is the central driver of regeneration), cultural regeneration (culture is one part alongside other drivers of regeneration) and culture and regeneration (not an integral, strategic driver but still a part of the regeneration process).

Underpinning ruralisation is the idea that generational renewal and rural regeneration go hand in hand. New rural generations (youth, newcomers, new entrants and successors in farming) are central to ruralisation.

2.2.6 Complexity and interconnectedness

Problems of decline create a need for regeneration, but **dealing with problems of decline is far from straightforward**. There is not necessarily a linear path between tackling single decline issues and regeneration. The specific drivers of the problem to tackle, and how, are complex questions. The interconnections between dimensions also mean that decline can have a spiral effect (Li et al. 2019). Social and economic regeneration are inter-dependent. Addressing social exclusion may lead to greater uptake of employment or training, mobilising or generating the local resource of human capital (Marsden, 1999). This integrated approach can build "the capacity of the community to regenerate its own economy" (Woods, 2005, p.149). The multidimensional, complex nature of the regeneration process means it is also a difficult process to realise. Novel approaches are called for, which the RURALIZATION project aims to identify.

To develop effective solutions, recognising the interconnected nature of rural decline problems is important. Decline may be impacted by drivers both inside and outside of rural areas. Decline may have multiple, interconnected drivers.

For example, rural youth decline is a problem that can be described in simple terms as being created by youth moving out of and not into rural areas. However, rural youth mobility is complex and multifaceted, as research in the French context has found (Gambino and Demesure, 2012). The solution might appear to be to encourage youth to stay, promote return youth migration or attract youth newcomers, nonetheless, this will not necessarily lead to regeneration in rural areas where there are limited employment opportunities and those returning do not create jobs but compete for existing, limited jobs. Leaving rural areas also benefits youth where they gain education, skills and work experience not accessible locally, as well as broader personal development (Stockdale, 2006). Drawing on existing research, In the German context, employment and education are key reasons for rural youth out-migration, but it is also important to look further than these problems and see rural youth as a heterogeneous group as drivers can also differ (Engel et al., 2019). In addition, farm intergenerational renewal sees a range different factors combine in real world settings (Coopmans et al., 2019). This also links to the integrated approach. We cannot look at demographic decline in isolation from economic and social decline. Nor can we treat economic decline removed from environmental and demographic decline. It is important to identify the right driver(s) of the problem to be addressed, and their potential wider consequences.

Targeting interventions is complex also because their consequences reach beyond the immediately apparent. What drives rural to perform better on depopulation measures is complex and not necessarily regenerative, or at least immediately so. Counterurbanisation is an illustrative example.

For example, a population movement trend away from cities and towards more affordable suburbs, towns or rural areas has been identified (Eurostat, 2018; Pistre, 2012; Copus et al., 2011b). Rural areas can be attractive places to live because of advantages such as more affordable housing, a lower cost of living and the natural environment (Eurostat, 2018). This drives counterurbanisaton to rural areas accessible to neighbouring urban centres where migrants retain links to these urban areas in order to offset factors that make rural areas unattractive, such as less educational opportunities and fewer job prospects (Eurostat, 2018). Counterurbanisaton can be driven by lifestyle and quality of life motivations, where migration does not have economic drivers but is driven by rural as a place of consumption (Šimon, 2014). On the other hand, the counterurbanised population can contribute to rural regeneration when they become embedded and active within rural communities (Bosworth and Atterton, 2012).

2.2.7 Participative process

Also part of the integrated nature of regeneration is a particular outlook on **governance** processes. Urban regeneration is described as a collective, interventionist activity where public, private and community come together to shape strategies for change. It is a participative process working to involve key stakeholders in partnership. Local regeneration partnerships should include a range of stakeholders from public, private, community and voluntary spheres (Roberts, 2000). This does not remove the possibility of central individuals as leaders, such as social entrepreneurs, playing an important role in regeneration (Furbey, 1999). Furbey (1999) argues particular priority should be attached to community involvement. Alongside this focus, regeneration must work on empowerment and building capacity within communities to enable effective involvement (Furbey, 1999).

The process of rural regeneration and strategies to support it has been aligned with particular governance approaches, such as the partnership model (Pemberton, 2019). Woods (2005, p.146-8) for example aligns the shift in emphasis from top down to bottom up policy approaches with the process of rural regeneration "characterised by small, community-led initiatives drawing on indigenous resources" and the state is more of a facilitator versus projects often driven by external investment such as manufacturing or "large, state-led infrastructure projects". In the context of small town regeneration, Powe et al. (2015) observe it calls for a many different stakeholders to be involved that possess diverse, complementary knowledge and resources to tackle this multidimensionality. Also flexibility is needed so that local place specific challenges can be tackled and it is noted in the UK context initiatives have traditionally been too heavily prescriptive. Powe et al. (2015) draw on existing research to also observe that support agencies can take a hands-off (facilitative) or hands-on role (setting and driving the agenda), with observed good practice favouring a more collaborative, facilitative role. The endogenous and neo-endogenous theories of rural development present a similar perspective on governance. Endogenous development aims to empower communities to drive regeneration aligned with local needs and assets which has also led to altered governance and emphasis: "Communities are encouraged to assess the problems they face, to identify appropriate solutions, and to design and implement regeneration projects" (Woods, 2005, p.149). Neo-endogenous rural development sees rural areas as not powerless to exogenous forces and they can direct more positive change. But to do this "a local area has, or must acquire, the capacity to assume some responsibility for bringing about its own socio-economic development (Ray, 2006, p.278). Governance mechanisms are also discussed by Ray (2006). Local communities should be involved in shaping development actions and how they are implemented. This also depends on local resources and values which can be likened to human and cultural capital "development is contextualised by focusing on the needs, capacities and perspectives of local people…the adoption of cultural, environment and 'community' values within a development intervention" (Ray, 2006, p.278-279).

Many have raised the **issue of power** in participative rural development and community capacity to effectively engage in participatory rural development approaches. Capacity to engage with bottom up, more participatory rural development approaches differ influenced

by for example people's time, education and skills, which also impacts the interests and issues that are dealt with (Herbert-Cheshire, 2000; McDonagh, 2001; Shucksmith, 2000; Woods, 2005). This creates "an uneven geography of regeneration" (Woods, 2005, p.158). In relation to urban regeneration, Furbey (1999) highlights attention to civil society and the decline of social capital, but also going beyond community capacity building as important to support effective involvement as part of integrated regeneration. In this context, researchers have also raised questions over who is responsible for rural development and the shifting of responsibility on to communities (Woods 2005; Herbert-Cheshire, 2000). Limitations have been identified with partnership model in rural regeneration. For example, Pemberton (2019) notes the variety of partners available to work with and desire to be involved can be limited. In relation to envisioning better rural futures, Shucksmith (2018) highlights debate around who participates in this deliberative process and the difficulty of truly inclusive participation.

2.2.8 Enabling desired futures

Regeneration involves a reflexive process of **thinking about desired outcomes and ways to realise this.** For example, **looking to the future** is an important part of urban regeneration, which combines forward thinking and strategic action. This is also important to finding the new frontiers of regeneration (Furbey, 1999). Shucksmith (2018) proposes 'utopian thinking' as a potential way forward. It provides as a method for envisioning the preferred future and identifying ways to get there. Alternative, potentially transformative rural futures are collectively imagined: "Antipathy to utopian thinking serves to reinforce the status quo, while a strategy of deliberatively imagining the Good Countryside could help to dislodge that status quo" (Shucksmith, 2018, p.164). Shucksmith (2018) draws parallels between utopian thinking and place-shaping. Thinking about the future, and the shape of future desirable places, is better done in real than abstract terms, thinking about where we live now and how we would like this place to be. In this sense, Shucksmith (2018) explains place-shaping as utopian, but as a method, not a goal. It helps to ideate what we ideally want future places to be like, but this then has to be translated into policy measures to work towards realising this vision. Alongside this, in rural development contexts the importance of 'futures' thinking has also emerged. Kuhmonen et al. (2016) argue an approach to more effective rural development policy could be to design interventions in response to research profiling the dreams of rural youth. This approach forms part of how the RURALIZATION project will generate policy tools that can be part of a new rural frontier that provides exciting opportunities to new rural generations for social and economic sustainability and to realise their dreams.

Using utopian and futures thinking in rural regeneration also raises further issues and questions around the future pathway of who decides and how. Given the core issue of generational renewal at the centre of rural decline issues RURALIZATION is embedding the desires of youth as part of the policy tools the project will generate.

Furbey (1999) poses the question of who decides what needs regenerating. The visionary direction and strategic nature of rural regeneration is also impacted by political ideology

(Pemberton, 2019). Urban regeneration responses are described as changing through time "mirroring the socio-political and economic values and structures of urban society" (Roberts, 2000, p.11). In the rural context, Shucksmith (2018, p.168) asks what morality might underpin the 'Good Countryside' questioning "who should decide, how and what scales?"

2.2.9 Pathways to rural regeneration

More broadly, in the context of rural areas as a context for economic activities, we must also think about potential pathways towards rural regeneration. Leading on from our view of the importance of diversity and multifunctionality as part of the rural economy, we identify multiple possible pathways of interest to the rural regeneration process. More widely it is also argued that identifying multiple pathways to rural regeneration is important. This is also because opportunities and challenges differ in different rural area types, as discussed in section 2.2.3.

For example, Atterton (2016) points to the need for multiple pathways, because: "one-size rural policy does not fit all…some places will need extra or different policy support otherwise they are at risk of being left behind, while others with a stock of more or better assets (including social networks and relationships, institutional capacity, levels of entrepreneurship and innovation), and the capacity to exploit them, will be in a position to perform well, perhaps with minimal external support" (Atterton, 2016, p.228-9). But crucially also cutting across this, it is argued that pathways at the core must support resilient, sustainable rural development with this transition anchored in a long-term perspective (Atterton, 2016).

Next we outline a number of potential pathways available to the rural economy to support its regeneration. These relate to agriculture and the broader rural economy. The pathways are not absolutely distinct, one or more may combine or co-exist in rural regeneration. For example, developing a rural smart specialisation approach may depend on rural-urban linkages to tap into essential human capital resources. Multifunctional agriculture may be the basis of new types of short supply chain rural-urban linkages. Also other dimensions of interest to RURALIZATION may come into their realisation. For example, the creation of a context for innovation and entrepreneurship could be central to rural smart specialisation. The integration of refugees and migrants into rural areas could be a part of developing more integrated rural-urban relations. The list is not exhaustive, but illustrative of potential pathways. In addition, RURALIZATION's research may find some pathways (or combinations of them) more facilitative of rural regeneration.

Smart specialisation: The smart specialisation policy concept builds on **local opportunities and capacities to find the best path for innovative development**. Woods et al. (2018) observe smart specialisation, smart growth and smart development are similar concepts. The central idea is: "Growing smart means prioritising what a specific local economy can do best – not did do in the past or should do" (Woods et al., 2018, p.3). Through smart specialisation regional innovation systems are strategically developed focusing on the

region's industry, technological or competitive strengths where it can compete strongly on a national or international level (OECD, 2014; Naldi et al., 2015). Naldi et al. (2015, p.92) also point out that specialisation does not leave no place for diversity, but this aspect is more conducive to urban or "high density regions" where is can "imply many different specializations" which might involve building on 'related variety'.

This pathway can also be linked to the Smart Villages rural policy concept. At the core of 'smart' in the Smart Villages context is in tandem with smart specialisation, that local assets are harnessed and external economy interconnections built. Specific smart specialisation in areas such as agri-food, culture or tourism could form part of a Smart Village approach, but also may look at wider potentials and specific local needs such as the circular economy and e-services (EC, 2017a). The Smart Villages concept has been critiqued for not being well defined, but others argue it is important to define it broadly so it is inclusive of a diverse range of responses (Soto and Nieto, 2019). Important also is that Smart Village strategies are drawn up with progress measured against goals of short, medium and long-term nature, as well as being reviewed using performance indicators (Smart Villages Pilot Project, 2019).

Rural-urban relations: Rural and urban areas are not separate areas but increasingly interconnected and development in both areas can benefit from **fostering relationships** that **build on their different assets and needs** (OECD, 2013). The proximity to cities impacts the nature of relationships, which can also take many forms such as collaboration on public service provision, connecting to urban markets or coordinated land use planning to avoid negative spill-over effects. (OECD, 2018b). European research projects such as RURBAN and ROBUST have examined rural-urban relationships and can be drawn on in the RURALIZATION context (further explored in D3.1 Review Report and Factsheets). For example, RURBAN identified the drivers with positive and negative influences on rural areas under urban pressure, as well as how to build new relationships between rural and urban areas to better integrate demand and supply of rural goods and services.

Multifunctional agriculture: Given our outlook on rural as a context for economic activities, multifunctionality emerges as a central part of the pathways for land based industries. But this pathway can be described also as existing on a spectrum where some pathways create strong multifunctionality while others are weaker. In terms of trajectories around how agriculture and rural areas have changed, a number of forms of 'productivism' exist alongside each other: non-productivist (e.g. re-localised production, lifestyle farming, low intensity/'traditional' production); productivist (e.g. globalised production, intensive/'modernised' production) and super-productivist (e.g. highly-globalised production, highly-intensive production)). The multifunctionality spectrum positions non-productivist the most multifunctional and super-productivist the least (Wilson, 2008; Wilson and Burton, 2015).

Strong multifunctionality is presented by some as the preferred pathway for more sustainable, resilient rural development (Wilson, 2008; Wilson, 2010). This resonates with van der Ploeg and Roep's (2003) construction of multifunctionality. This sees farms tapping into their three interconnected sides (food supply, rural area connections and rural resource mobilisation) contributing to rural development through broadening, deepening and

regrounding processes. Deepening involves food supply focused on higher value production (e.g. organics, short supply chains, artisan/quality products). Broadening involves reaching deeper into rural area connections beyond food (e.g. agri-tourism, care farming, energy production). Regrounding involves linking the farm to new resources or using resources differently (e.g. pluri-activity (off-farm employment), low external input farming). These processes can work in tandem or separately but re-shape the farm into a multifunctional enterprise.

Agroecology: The 2030 Agenda for sustainable development calls for bold, transformational change to ensure a sustainable and resilient path for future world development (UN, 2015). Aligned with Agenda 2030's broad agenda, FAO (2018) argue **agroecology can encompass what is needed in the transformation of agriculture, offering a holistic, integrated, long-term focused approach focused around family farming**. The economic potential of agroecology to improve farm incomes and generate increased farm employment, while simultaneously achieving required levels of productivity and effectively addressing sustainability issues, is increasingly recognised and evidenced (e.g. De Schutter, 2010; FAO, 2018; van der Ploeg et al. 2019). van der Ploeg et al. (2019) identify a somewhat silent agroecological turn in European farming where practices of 'proto-agroecological' nature, i.e. are not explicitly identified as agroecological, can be identified.

The agroecological approach encompasses diverse production systems, combining for example, crops, livestock and forestry, building synergies within these system, optimising resource use efficiency, minimising external inputs and mimicking circular cycles in biological systems. Co-created innovative knowledge and labour are key resources. Local and regional markets are prioritised, moving away from long, vertically coordinated supply chains. Social and cultural values also underpin agroecology, seeking to address inequality, such as gender and resource access issues, while valuing local heritage and broader cultural traditions. The agroecological approach is argued to enhance ecological, social and economic resilience (FAO, 2018; van der Ploeg et al., 2019). In practice, how the overall elements of this approach are implemented can differ, nevertheless, common ground exists particularly around, minimising external inputs and use of co-created innovative knowledge (van der Ploeg et al., 2019). Also, FAO (2018) outlines how the **transition to agroecology needs the correct enabling environment**. In the short term, structural barriers are identified as important to overcome as production systems transition to more diversified, circular production systems and shorter supply chains (FAO, 2018). Agroecology can be aligned with how Marsden (2012) conceptualises the 'eco-economy' paradigm. It is argued we need to transition towards the eco-economy to realise the social and environmental re-embedding of agriculture, which in turn is needed to enable agriculture to become part of the sustainability solution (Marsden, 2012).

Bioeconomy: This pathway represents a different trajectory towards the transformation of agriculture and the wider rural economy as compared with agroecology and the eco-economy. Marsden (2012) constructs them as two distinct paradigms, where both aim to sustainably harness value from natural resources, but characterises the bioeconomy as lacking local embeddedness and being built around more corporate big business structures.

But fundamentally the **bioeconomy is an economic sector that is focused on different ways to use natural resources sustainably**, including bio-based products, biofuels and biotechnology, with new knowledge and technological innovation a key driver. Sustainable intensification can be aligned with the bioeconomy, which is focused on increasing productivity without the need for increased land or negative impacts on the environment. An important question remains around the bioeconomy's potential value as part of regeneration of the rural economy relating to how it is constructed and the combined interests (e.g. economic, farming and wider community) it serves (McDonagh, 2015).

2.3 Emerging Concepts

This exploration of the meaning and practice of regeneration has distinguished the characteristics of regeneration, but also a number of challenges. **Regeneration aims to be a transformative process that addresses problems of decline.** Regeneration should be an ambitious, integrated process but in practice it can fail to live up to this. **In reality it can be more partial** and deal with certain issues and not others, which in the end can impact each other and contribute to decline.

If the RURALIZATION project is to contribute to the development of a new perspective that can generate a new rural frontier, alleviating decline and generating new opportunities, we also need to advance our understanding of what impacts decline and how ruralisation can effectively emerge. This points RURALIZATION towards the concept of **resilience**. A number of key ideas that underpin resilience offer promising ways to better break down the complex drivers impacting rural decline and the direction regeneration should take – for example by building local capacities to adapt and a more general adaptability within the rural system, there should be a better readiness to respond to change.

Resilience is however not just about a passive response to change, but also proactively steering change in response to negative trends. Regeneration should be visionary, but a resilience perspective suggests effective regeneration must both look back and look forward. For example, ideas of path dependency offer interesting potential. Also the complexity of regeneration issues can perhaps be understood through how resilience sees change processes as complex and interacting where there is longer and shorter term, larger and smaller scale processes that interact. This overall context draws us to resilience as an important concept.

The outcomes of regeneration should result in more desirable reinvention or revival of places. Regeneration may not result in strong growth because of local resources. But regeneration is also about responding to decline and assisting places to reach their potential. It harnesses distinct local resources, but external resources and ideas also play a valuable role. Underpinning ruralisation is the creation of opportunities for new generations in rural areas. In this context, **rural innovation** is an important concept, from a number of respects. Rural innovation can play both a direct (e.g. economic growth, jobs and opportunities) and indirect role (e.g. address social and cultural decline issues) in rural regeneration. Rural innovation can also be understood in terms of new ideas and testing alternative ways of thinking on growth and development.

We also need to advance our understanding on how to better resource rural regeneration – what exactly makes some rural areas avoid decline and perform better than others. Regeneration highlights that local resources are important and this does not just amount to tangible assets, but also community capacity. Resilience and innovation also raise similar questions in relation to the circumstance and process of their creation, such as through systems of actors at different scales, local and extra-local. But the RURALIZATION project also needs a clear way to think about and distinguish resources for rural regeneration that somewhat removes our thinking from the complex workings of the concepts of resilience and innovation. **Capital frameworks** provide a means of organising the potential resources that underpin solutions in response to complex drivers. It also forces us to think in an integrated way about resources, before delving into other dimensions that impact their effectiveness.

The next three sections explore these concepts - resilience, rural innovation and capital frameworks. The sections provide further context on the relevance of each concept to the RURALIZATION project and to conceptualise the ruralisation process. Key aspects of how they are defined and conceptualised are detailed, as well as exploring some wider implications on the application and policy relevance of these concepts.

3 Resilience

The RURALIZATION project aims to better understand the issues and process of rural regeneration. Resilience is about capacity to adapt or even transform, in either a reactive or proactive way, to negative changes, such as rural decline, impacting for example various facets of rural sustainability or well-being (e.g. social, economic, environmental). A resilience perspective can help to show how and why some places have adapted and responded better than others, or even transformed in response to change. But depending on how resilience is defined, it can present a more conservative or progressive framework. This is why we also introduce the resourcefulness concept that can be used in conjunction with resilience. In this section, we contextualise resilience in general terms of how the concept has been used, look at some wider critique (most centrally the issues around power and human agency), leading us to resourcefulness to help address these issues. We also assess its potential relevance to conceptualise the ruralisation process and as an analytical tool to address some of the RURALIZATION project's overarching objectives.

3.1 Context and relevance

Resilience thinking has its origins in ecology dating back to the 1960s, used to assess how ecological systems cope with change, such as major shocks or less severe disturbances, and has since been extended to social contexts (Davoudi, 2012; Scott, 2013). **Resilience has wide application in varied fields**, such as sociology, engineering, psychology, ecology and economics, showing not just its malleability but also its usefulness as a conceptual lens, as well as a powerful metaphor helpful to understand complex phenomena (Pendall et al., 2010; Davoudi, 2012; Fath et al., 2015). Resilience thinking has been applied in varied rural development contexts, such as farm systems (e.g. Meuwissen et al., 2018) and rural community resilience (e.g. Skerratt 2013; Roberts et al. 2017a; Roberts et al. 2017b). Folke (2016) goes so far as to say there has been an 'explosion' in the concept's use. Fath et al. (2015, p.1) argue its "universal applicability suggests that resilience is an inherent property of systems". The term is not just academic, but is widely used, such as in political discourse, which can diminish its meaning, as has occurred similarly in relation to sustainable development (Davoudi, 2012; Scott, 2013). Rather than one distinct concept, some describe **resilience as a theoretical paradigm** that itself has seen shifts in thinking emerging from a number of fields of study (Fath et al., 2015; Tendall et al., 2015).

Resilience can be considered both a **desirable outcome and a process**. As an outcome, it is a state that means, for example, rural communities are better prepared to adapt to change (Wilson, 2010). Alongside noting key critiques of resilience as a social science concept, Young (2016, p.766) argues its main value lies not as a process that can be measured but as a metaphor that shapes our thinking, which: "encourages us to rethink how change happens and how communities respond to it". Davoudi (2012) observes how the outcome of resilience in ecological terms should be sustainability. As a process of dynamic change, it can be linked to communities: "the willingness of communities to take responsibility and control

of their rural development pathways" (Wilson, 2010, p.366). It can also be linked to regions where Pendall et al. (2010, p.76) argue resilience is not a state of being where for example a "region is more or less resilient" but is a continuous, dynamic process of change.

To conceptualise the ruralisation process, resilience has relevance both as a metaphor and a process. As a process, using more specific concepts (e.g. adaptability, transformation, discussed in section 3.2) within the resilience paradigm, are potentially attractive to help us to explain how promising practices facilitate new generations or why some rural areas perform better than others in matters of rural regeneration. As a wider metaphor it provides ways to think about and raise questions around the dynamics of how change happens which may help to qualitatively analyse the process of rural decline or better performance in relation to rural regeneration, attracting rural newcomers, new entrants into farming and access to land.

Its value in rural studies is also as a as a **'bridging concept'** (Scott, 2013; Davoudi, 2012). According to Scott (2013, p.598) it has potential to "open up new perspectives" and "**reframe rural development debates"**. This approach can contribute to highlighting new issues and perspectives (such as the importance of social innovation, social capital and new modes of governance) that can shape an "alternative policy narrative for rural development" (Scott, 2013, p.604). Similar to the concept of neo-endogenous development, resilience thinking recognises "the need to blend local and global" (Scott, 2013, p.604). It also potentially helps to **break down change processes** drawing "our attention not only to sudden shocks…but also…longer term processes of change" as well as identify "place assets or attributes that contribute to weak or strong resilience or vulnerability" (Scott, 2013, p.604).

In the context of integrated rural regeneration and the environmental challenges linked to rural decline, resilience emerges as an important concept. It drives a re-focusing of attention on the importance of interconnections between different domains in rural development, such as economy, society and environment.

From its basis in a systems perspective, resilience acknowledges the interconnectedness of environment and society, where these "systems can work against one another, or for mutual benefit" (Cretney, 2014, p.629). For example, in the context of socio-ecological systems and resilience the vital recognition of interdependent links between social and ecological systems is crucial (Folke et al., 2010). **To enhance resilience, interconnections between environment and society must be considered** (Maclean et al., 2014). The resilience perspective recognises the need to embed environmental and ecological issues into rural development (Scott, 2013). Steiner and Atterton (2015) emphasise the integration and balance of the social, economic and environmental in rural community resilience, with economic diversification identified as particularly important within this. Similarly, Wilson (2010) argues it is the quality of multifunctionality that determines rural community resilience with strong multifunctionality (composed of economic well-being, well-developed social capital and strong, sustainably managed environmental capital) needed for resilient rural communities.

Further to this, resilience and sustainability have been described as complementary, interlinked concepts (Holling, 2001; Cutter et al., 2008; Scott, 2013; Tendall et al., 2015). Sustainability deals with securing the future in an intergenerational context, which also makes it a concept of relevance to the RURALIZATION project. The project is interested in innovative practices that create more opportunities for new generations in rural areas leading to generational renewal and further economic activities leading to economic and social sustainability. In a community resilience context, Cutter et al. (2008, p.601) observes that sustainability is central because: "The resilience of a community is inextricably linked to the condition of the environment and the treatment of its resources". Scott (2013) observes how some scholars see resilience as strengthening the concept of sustainability with resilience creating a greater capacity for renewal. 'Resilience-building' can be a "transformative process in transitioning towards a more sustainable future" because of its focus on future uncertainty, gradual and rapid change as well as impacts across time and space (Scott, 2013, p.601).

3.2 Conceptualisation

Resilience can be understood broadly as aiming to: "capture the differential and uneven ability of places to **react, respond and cope with uncertain, volatile and rapid change**" (Pike et al., 2010, p.59). It can also be **defined more broadly including more proactive responses**. Hudson (2010, p.12) frames resilience as a "process of social learning" where its creation uses "human capacities and knowledge to reduce vulnerability and risk in the face of the unknown and unexpected". Change related to shocks, such as economic recession or acute climate events, have relevance, but **overall trends or 'disturbances' impacting rural change more broadly are multiple, varied and interconnected**. **Rural change** is impacted by **external forces** and the **growing interconnectedness** of the rural economy and society over **long distances** (Copus et al., 2011b). **A range of trends impacting rural change**, are described by Li et al. (2019, p.138): "globalization, industrialization, urbanization and informatization processes". Beyond these, a range of other significant trends impacting change in rural areas include for example: climate change, natural resource depletion, ageing population, de-population, digitisation (Ferreira et al., 2019; Perpiña Castillo et al., 2019; Roberts et al., 2017b; ECORYS, 2010). A wide range of other, less pervasive trends impacting particular rural areas or economic sectors can also be identified, such as counterurbanisation, a movement 'back to the land', masculinisation of farming and smart farming (Bosworth, 2010; Wilbur, 2014; Šimon, 2014; EIGE, 2017; Wolfert et al., 2017). More broadly, a process of **'rural restructuring'** operating during the late twentieth and early twenty-first century is observed where interconnected processes impact society and economy (Woods, 2005; 2009).

To avoid decline, rural areas must adapt and respond to change. A lack of resilience emerges when rural areas and economic sectors do not adapt and innovate in response to change. Economic rural resilience can for example be threatened by a lack of rural economic modernisation and diversification (Li et al., 2019).

Resilience is also linked with the idea of **reducing vulnerability against the unexpected**. It can be conceptualised as bouncing back (equilibrium approach) and restoring the system or bouncing forward (multi-equilibrium approach) to a more desirable state than before the shock or disturbance (Scott, 2013; Pendall et al., 2010). The ability to respond can be because of endogenous resources or a more innovative, creative adaptation (Pendall et al., 2010). In rural and regional development contexts, many argue it is necessary to look beyond rural resilience in terms of equilibrium states and responding to shocks or disturbances, with the evolutionary perspective and its focus on transformation more appropriate (e.g. Scott, 2013; Skerratt, 2013; Boschma, 2015). In the context of sustainable rural development, **critiques** of the **equilibrium approach** generally highlight how it does not allow for positive system change or reforms, rather it seeks a return to pre-existing state and normalises periods of crisis, while the **evolutionary resilience perspective potentially opens more transformative, empowering pathways** (Scott, 2013). Critique of resilience thinking broadly speaking often originates from the fact that the **concept emerged in an ecological context and has been transferred to the social sciences.** Moving into these critical debates in more detail allows key aspects of how resilience has been defined to be outlined, but also permits an exploration of current and broader definitions of resilience.

Resilience 'thinking' includes a number of conceptual approaches:

- The **equilibrium** approach, aligned with the engineering conceptualisation, is concerned with how the system copes and can restore itself or '**bounce-back'** to a normal state following shocks or disturbances (Pendall et al., 2010; Davoudi, 2012; Scott, 2013). There is a "response to external disturbance and a move back to a steady state" (Boschma, 2015, p.734). Systems are seen to have a "single equilibrium, such as…a fertility replacement rate or a standard bridge loading" (Pendall et al., 2010, p. 72). More resilient systems will restore equilibrium faster (Davoudi, 2012).
- The **multi-equilibrium** approach, aligned with the ecological conceptualisation, sees the potential for more than one equilibrium state that impacts resilience. As a result of disturbances, a new equilibrium state can become important to resilience (Boschma, 2015; Pendall et al., 2010). In multi-equilibrium systems there can be 'lock-in' where it is "stuck at sub-optimal level" due to path dependence, nevertheless reinvention is possible in the right conditions (Pendall et al., 2010, p.74-5). In the multi-equilibrium approach, the speed of equilibrium restoration is not the core concern, but also its ability to adapt and persist, or tolerance of "disturbance…and remain within critical thresholds" (Davoudi, 2012, p.300).
- **Adaptation, but also adaptability and transformation** are central to resilience as part of the **evolutionary** approach, **regardless of whether shocks and disturbances are part of system change** (Davoudi, 2012; Scott, 2013). Resilience is seen as an **ongoing process** concerned with long-term development. It is concerned with a region's "ability to adapt and reconfigure their industrial, technological and institutional structures in an economic system that is restless and evolving" (Boschma, 2015, p.735). Gunderson and Holling (2002) conceptualise the evolutionary approach as an adaptive cycle with four phases (growth, conservation,

release and re-organisation), which many others have adapted and built on (e.g. Pendall et al., 2010; Fath et al., 2015).

From the equilibrium or multi-equilibrium approach, resilience is discussed in the context of **shocks and disturbances**. These are of **wide diverse nature**, such as "individual traumas, terrorist attacks, natural disasters, natural developments like global warming, global economic crises, major plant closures, technologies becoming obsolete, the fall of complete industries, political transformations, and so forth" (Boschma, 2015, p.734). **Achieving resilience is viewed differently if defined using the equilibrium or multi-equilibrium approach**. Under the equilibrium approach resilience means restoring the pre-shock or pre-disturbance state, while the multi-equilibrium approach allows for transformation to take place as new equilibrium states can become important to resilience and 'bouncing back' (Pendall et al., 2010). The evolutionary approach does not understand resilience in equilibrium terms and moves beyond the idea of restoring a system to what it was like before a disturbance (Pendall et al., 2010; Scott, 2013; Fath et al., 2015). It distinguishes between processes that impact change over a shorter and longer timeframe, as well as seeing resilience as having a relational nature where the past and present, local and extra-local have influence on resilience (Pendall et al., 2010; Pike et al., 2010; Scott, 2013). Pike et al. (2010, p.61) note a shift in focus in resilience thinking, concerned with spatial and territorial aspects, highlighting deficiencies with equilibrium approaches as "ill-equipped to explain the geographical diversity, variety and unevenness of the resilience of places". The equilibrium and evolutionary approach have been described as two contrasting strands within resilience thinking (see Figure 3).

Equilibrium resilience	Evolutionary resilience
'Bounce-back' resilience The ability of a system to accommodate disturbances without experiencing changes to the system.	'Bounce-forward' resilience The ability of a system to respond to shocks and disturbances by adaptation and adaptability
Emphasises a return to a steady-state after disturbance – 'business as usual'.	Emphasises transformation or path creation in response to disturbances – 'do something different'.
Short-term response to shocks and disturbances.	Long-term response, emphasising adaptive capacity.
Prominent in the literature surrounding disaster management, managing geo-environmental hazards	Prominent in the literature surrounding regional economic development, spatial planning
Conservative approach, naturalising man-made crises and depoliticising responses.	Recognises the politics of resilience, involving normative and value judgements.
A reactionary tool, reinforcing existing power structures	A critical tool, enabling reform

Figure 3: Key features of the equilibrium and evolutionary approaches to resilience

Source: Scott, 2013

The idea of an adaptive cycle is an approach to understanding evolutionary, social-ecological resilience. Under the **adaptive cycle** approach, Fath et al. (2015) construct resilience as a

continuous model that includes four stages – growth, equilibrium, collapse and reorientation. Resilience is a state where all four stages can be passed through with success (Fath et al., 2015). The reorientation or reorganisation phase is strongly linked with the concept of regeneration and is a time of innovation (see Figure 4).

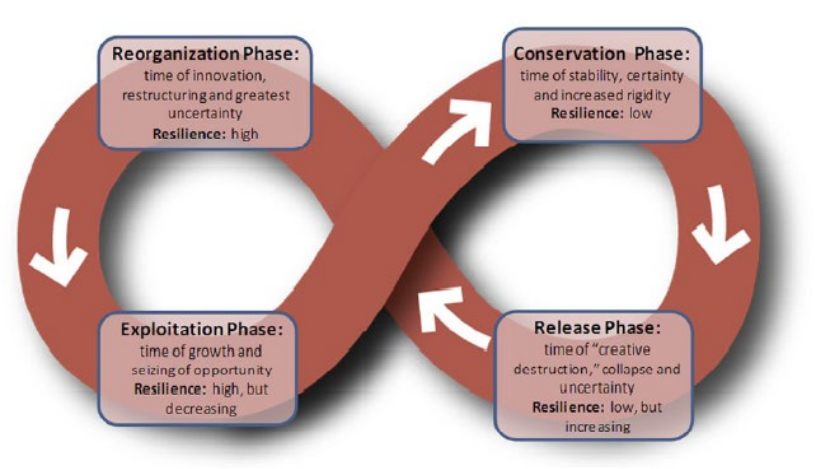

Figure 4: Resilience as a four-phase adaptive cycle

Source: Pendall et al. 2010, adapted from Holling and Gunderson, 2002

Because of its focus on rural regeneration as a transformative process of relational nature, the ruralisation process becomes aligned with the evolutionary approach to resilience. This is also with the understanding that rural communities do not just react to disturbances and shocks but also can proactively respond to change.

Next we unpack a number of key dimensions of resilience thinking – resources/capacities, adaptability, transformation and local/extra-local interactions.

3.2.1 Evolutionary resilience and local capacities to adapt

The lack of focus on human agency as a driver of change is a key issue with the ecological resilience perspective. The **evolutionary perspective sees agency and relations between agents as pivotal to understanding the capacity to adapt** (Pike et al., 2010). In the rural context, Skerratt (2013) argues the **'proactive human agency' strand of resilience literature** is important as rural communities do not just react to disturbances and shocks but also can proactively respond to change. Drawing on existing research, Gibson and Gordon (2018, p.260) identify the need to understand the "ongoing, everyday experiences of vulnerability, and prosaic cultural practices that enhance longer term social, economic and environmental resilience". This suggests particular attention in a rural resilience context needs to focus on

how local, micro level capacities can drive change, not just in response to shocks or disturbances, but to develop more resilient and new development paths. MacKinnon and Derickson (2012) observe resilience can be defined externally to its context of application, by state agencies and expert knowledge. Resilience must be understood in the context of local needs, resources and capacities, but also external influences. This also points to the importance of the 'resourcefulness' dimension to understanding rural resilience (discussed further in section 3.3.4).

Also aligned with **how and what resources support resilience**, Wilson (2010) proposes that the multifunctional quality (from weak to strong) of rural communities and their resilience can be understood through the **presence and intersection of place-based resources of economic, social and environmental capital**. Multifunctionality in this context relates to the idea that rural and agricultural spaces are places of food production, but also have social and environmental functions. A temporal dimension is also introduced, with multifunctionality weakening over history as rural and agricultural systems have become more complex and globalised. Overall it is argued "strong multifunctionality can be used as a conceptual model for understanding 'positive' rural pathways of change, and as an explanatory tool and normative ideal for rural development" (Wilson, 2010, p.376).

3.2.2 Aadaptability and transformation

Adaptability is crucial for resilience. The ability to adapt is linked to capacity to influence resilience, to learn and adjust in response to internal and external forces of change (Folke et al., 2010). Drawing on ideas emerging from economic geography, Pike et al.'s (2010, p.62) work is useful to understanding the concepts of adaptation and adaptability as important "causal concepts in explaining the geographically uneven resilience of places". They distinguish between **adaptation and adaptability with adaptation something that happens in the short term while adaptability is a longer term process**. They explain: "adaptation is defined as a movement towards a pre-conceived path in the short run, characterised by strong and tight couplings between social agents in place. Whereas adaptability is defined as the dynamic capacity to effect and unfold multiple evolutionary trajectories, through loose and weak couplings between social agents in place that enhance the overall responsiveness of the system to unforeseen changes" (Pike et al., 2010, p.62).

> Adaptability can give rise to a number of different types of response to support resilience, such as moving away from a previously effective development path and taking a "new, related or alternative trajectory" or sticking with an existing path in the short-term while looking to alternatives for a more resilient future (Pike et al., 2010, p.62).

Adaptability also **requires forward thinking, planning and strategic vision** where regions must "seek to develop transformational strategies that anticipate and seek to prepare for the effects of adverse changes, developing the capacity to learn in order to do so and securing the necessary resources to put these proactive strategies into practice" (Hudson, 2010, p.22). What impacts the capacity to adapt is complex and challenging. For example

Folke et al. (2010, p.4) ask "Are there deeper, slower variables in social systems, such as identity, core values, and worldviews that constrain adaptability?". Pike et al. (2010, p.63) mention challenges when moving from an established to alternative path such as "economic inefficiencies and political unpopularity" and in the context of old industrial regions note that adaptability is the exception and not the norm.

Adaptability and transformation are distinguished in evolutionary resilience thinking. Transformation relates not just to change, but capacity to influence transformative change.

In the social-ecological resilience context transformation means capacity to transform economic, social and environmental aspects of the existing system that is not supporting resilience. It might involve shifting the economic base of a region. Transformation can be deliberate and strategic which can happen at multiple scales, or forced, which is likely to be driven by external forces (Folke et al., 2010). Folke et al. (2010, p.5) draw on wider research to highlight the potential for transformational change is impacted by many diverse phenomena such as "shifts in perception and meaning, social network configurations, patterns of interactions among actors including leadership and political and power relations, and associated organizational and institutional arrangements". In addition they highlight the capacity and potential for transformation "does not take place in a vacuum" and can be linked to preparedness for change (even when it comes as a surprise), looking to different scales and contexts for new ideas, capitalising on a crisis as an opportunity to catalyse change and when transformation occurs not forgetting about supporting the resilience of the transformed system (Folke et al., 2010, p.7).

Transformation can also be supported by experimentation and small-scale testing of ideas, which can lead to innovative ideas that apply across scales supporting system transformation.

In relation to transformation and experimentation, for example Folke et al. (2010, p.6-7) use the example of declining agricultural productivity and land degradation in some Latin American countries: "This breakdown prompted some farmers to start experimenting with unconventional methods…The experimental learning approach at small scales, with processes for emergence and cross-scale learning, caused a transformation of the whole farming system".

3.2.3 Path dependence, lock-in and related variety

Evolutionary resilience sees both the adaptation and transformation of social and economic systems possible towards new pathways. Economic geography perspectives on evolutionary resilience see path dependence as important to understanding the emergence of new pathways (Scott, 2013).

History, such as formal or informal institutions, impacts future development setting limits and opportunities, which can progress along multiple and new pathways (Pike et al., 2010; Scott, 2013; Boschma, 2015). It is important that path dependency informs adaptation and adaptability impacting the "timing and nature, rate and duration of change" (Pike et al., 2010, p.63).

Path dependence can also **experience 'lock-in'** where adapting and taking alternative paths is limited and can be "stuck at sub-optimal level" (Pendall et al., 2010, p.74). Drawing on work from evolutionary economic geography (Grabher, 1993), Pike et al. (2010, p.64) identify different types of lock-in "functional, cognitive and political, whereby economic, social and institutional outlooks, relationships and configurations in place ossify over time". Different types of lock-in can overlap and occur simultaneously and even self-reinforce each other (Pike et al., 2010). Lock-in can compromise adaptability where "formal and informal institutional culture and relationships may inhibit adaptive behaviour and capacity. Similarly, the process of **'de-locking'** may be central in path creation and transition towards a more sustainable future" (Scott, 2013, p.601).

Lock-in can be changed and needs to be addressed to facilitate adaptability; also how it is interpreted can impact this. Innovation, diversification, institutional reform, re-structured governance are potential paths to address it (Pendall et al., 2010; Pike et al., 2010). Wilson (2012) observes that '**monofunctional' pathways reliant on one capital or limited resource base can create more lock-in as opposed to multifunctional pathways** reliant on a balance of social, economic and environmental capital that support greater adaptability and resilience. Pike et al. (2010) make a similar point noting that diversified economies with strong human capital have more capacity to adapt than economies reliant on one or a narrow range of sectors with low human capital. This also links to related variety, another factor scholars have linked to capacity for adaptability (e.g. Pike et al., 2010; Boschma, 2015).

Related variety, as opposed to specialisation, sees value in developing **complementary sectors to support economic growth** which can result in the emergence of spin-off firms (Frenken,van Oort and Verburg, 2007). The existence of related variety is also supportive of economic resilience as the risk of severe impacts, due to, for example, change in demand or wider economic decline, are likely to differ across different sectors. It is also thought to facilitate the emergence of new industries from existing or declining sectors in response to changing or emerging market demand (Frenken,van Oort and Verburg, 2007; Pike et al., 2010).

3.2.4 Evolutionary resilience and change processes

Evolutionary resilience understands the nature of change, shocks and disturbances as complex and multidimensional. It distinguishes the pace of change caused by shocks and disturbances, where both "broader, longer-run and slow burn processes" can unfold, and also be intertwined (Pike et al., 2010, p.63). This similarly underpins evolutionary resilience understood as an adaptive cycle where both "acute one-time shocks…and slow-burn stresses" (Pendall et al., 2010, p.78) come into play.

Under adaptive cycles, change processes are seen as nested, where at the same time a number of smaller and larger cycles (see Figure 5) interact and operate across time and at different scales (Pendall et al., 2010). This dynamic process is termed 'panarchy' (Holling, 2001; Holling and Gunderson, 2002). Differences can be identified in how smaller and larger nested cycles interact and function. Pendall et al., (2010, p.79) explain: "Smaller, faster-cycling systems act upon larger, slower-cycling systems through a 'revolt' function, which has the potential to cascade upward through the system in times of low resilience. The larger, slower cycling system in turn shapes the smaller, faster-moving system through a 'remember' function, which draws upon the accumulation of resources and experience of maturity to contain a crisis and spark renewal". The 'remember' function can have a stabilising effect on the sub-system and help to mitigate against impacts of revolts spiralling (Pendall et al., 2010). Shocks and disturbances also need to be distinguished as regards the potential for long run impacts or **'after-shocks'** as well as whether they are "anticipated or not and whether it is a high-probability and low-risk or low-probability and high-risk occurrence" (Pike et al., 2010, p.63).

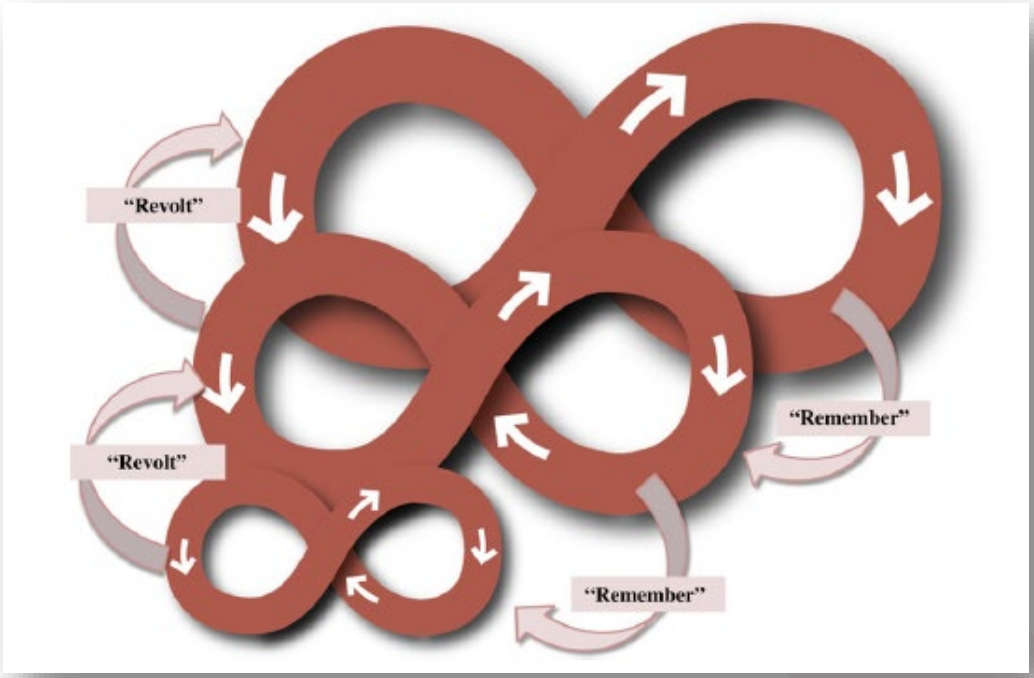

Figure 5: Nested adaptive cycles and cross-scale interactions

Source: Pendall et al., 2010

3.2.5 Evolutionary resilience and scale

The relational and interconnected nature of places and different scales is also a key underpinning idea within the evolutionary approach to resilience. Focusing on rural resilience for example suggests particular geographic boundaries and determinants of resilience as perhaps within a specific rural area; however external actors or resources can also influence resilience (Pike et al., 2010; Martin and Sunley, 2015).

Scott (2013, p.601) observes evolutionary resilience encompasses a "**need to blend the local with the extra-local in building resilient places** – in other words, deploying local assets within the context of global circuits of capital while competing to attract extra-local resources". Folke et al. (2010) makes the point that **innovations supporting adaptation or transformation in local contexts can emerge from different places and scales**. Discussion on social innovation in section four below also reveals similar findings. The **impacts of global forces should not be seen simply as dominant.** Pike et al. (2010, p.65) for example explains "It was not a simple and rigid hierarchy of 'global' structures impacting upon the agency of 'local' actors but part of a more interdependent set of socio-spatial relationships and networks". In the community context, it is also noted **care is needed not to 'over-romanticize' particular scales, practices and pathways**, resilience is about "**striking the right 'balance**' between communities and their scalar interactions…too much isolation of a community may be bad in light of over-dependency on local resources, skills and people, 'over-globalization', with possible loss of autonomy and identity, may be equally fraught with problems" (Wilson, 2012, p.1229).

Beyond thinking in geographic and place terms e.g. local rural community or rural region, the resilience thinking lens can apply at a number of different scales. For example, Boschma (2015) refers to individuals, organizations and systems. RURALIZATION case studies could be understood as systems that interact with forces at a number of scales that impacts their contribution to wider rural, farm or group (e.g. newcomers, new entrants) resilience. Resilience also potentially provides normative ideas to measure the dreams futures of rural youth against to assess how compatible they are with resilient, place-based rural regeneration.

The relational nature of resilience creates problems in drawing boundaries around the scale(s) that need attention. This relates to setting not just scale boundaries, but also temporal boundaries within which resilience is observed and analysed. Pendall et al. (2010, p. 80) discuss this issue and note looking at **"the nature of the challenge**" can help to address this. For example, is it an issue related to wider economic transformation or a more isolated shock event? This is a difficult challenge to overcome but overall what is important is to acknowledge the relational nature of resilience in space and time and incorporate ideas to ensure it shapes our thinking, such as path dependency and relational thinking on scale and networks (Pike et al., 2010). For example, Wilson (2012) outlines how **local level, community resilience can be impacted by forces at spatial scales at both at smaller (individual/household) and larger (regional, national, global) scales**. This also links strongly

back to the concept of 'translocal' networks in a rural innovation context discussed in section four.

3.3 Critique and implications

3.3.1 Scope to use and develop resilience thinking

Resilience has been **criticised for lacking tight conceptualisation** and as a wide-spanning 'fuzzy' concept (Pendall et al., 2010; Roberts et al., 2017b). However, it is also argued that considerable progress has been made in clarifying its definition and operationalisation as the concept has matured (Pendall et al., 2010). Davoudi (2012, p.302) argues the **evolutionary approach is a paradigm shift** in the sense that it views the world as "chaotic, complex, uncertain, and unpredictable". **The evolutionary approach also needs further conceptual development in empirical contexts** (Boschma, 2015). There are areas where scholars differ. For example, the place of the 'pre-disturbance state' differs in conceptualisations of evolutionary resilience as adaptive cycles. Fath et al. (2015, p.8) sees resilience as a continuous system where there is ongoing learning and hence "are never able to return to the same pre-disturbance state". **Conflicting views exist in resilience research**, where some view **resilience as reactive** and restoring a previous state that existed prior to disturbance, while others view **system change as more important to resilience** (Cretney, 2014). These issues do not reduce its potential importance to the RURALIZATION project, but through application of the concept in empirical contexts it also provides opportunity to advance our understanding of the complex process and state of resilience, as well as how to achieve it.

3.3.2 Resilience outcomes and drivers

What should the desired outcome of resilience be? Davoudi (2012) notes that in ecological resilience, this is sustainability, while in social settings desired outcomes are inevitably normative and based on judgements on what is desirable or undesirable.

> In a rural regeneration context, what is desirable can logically be linked back to overcoming the issues of rural decline. The RURALIZATION project understanding of rural regeneration has also emphasised the interconnected nature of these issues, so overcoming one issue is not enough. For resilient rural regeneration, the different types of rural decline challenges must be overcome in an integrated manner.

In the context of understanding the impact of digital technology on rural communities, Roberts et al. (2017b, p.357) argue a resilience perspective is appropriate to explore "how and what makes individuals, businesses, communities and regions more resilient" and that "key resilience terms are especially helpful for thinking about how and why communities benefit or become disadvantaged in the ways they do". Scott (2013) also draws attention to the **need for research assessing drivers of resilience in practice**, such as governance institutions that support or hinder it, the role of social and eco-innovation and the ability of rural economies to utilise resources outside their locality within the globalised economy.

Dwyer et al. (2019) describe generational renewal in the agricultural context as enough young people who are willing and prepared to farm. In the non-agricultural context generational renewal is where there are a range of rural businesses providing adequate levels of employment options in rural areas to sustain rural youth and there is stability or growth of population (Dwyer et al., 2019). Dwyer et al. (2019) also note that there is no clear European level of 'sufficient' young people in rural areas and deciding what is adequate depends on the context. Coopmans et al. (2019, p.9) identify that much research on farm generational renewal makes an almost implicit assumption that "there is not enough succession and that there is a 'young farmer problem', simply defined as the number of young people involved in farming as being too low". They acknowledge the benefits of young people in farming, such as new knowledge and skills, as well as greater likelihood to improve farm profitability and sustainability but also that: "the ideal ratio of young to old farmers has never been explicitly defined, presumable because there are no convincing arguments for a 'good' level of intergenerational renewal" (Coopmans et al., 2019, p.9).

Resilience is a potentially helpful concept to deal with the question of rural generational renewal. The desired level of generational renewal is unclear. Thinking in terms of the 'right level' of young people in rural areas, deciding when generational renewal has been achieved, or what level we are aiming for, is not clear-cut. Rather than thinking in absolute terms, which is clearly problematic, generational renewal might be better framed in normative terms working towards greater resilience of the rural population underpinned by a deeper understanding and development of the conditions that support this.

3.3.3 Human intervention, power, and resilience

Major critique of resilience exists around issues arising from **its transfer and application from ecological to social settings**. Resilience is also critiqued as a conservative concept (MacKinnon and Derickson, 2012). It incorporates the **possibility of transformation, but this is within the existing system limits**. One key issue is debate around the place of human action within the resilience process. Ecological resilience has constructed human intervention as merely reactive to shocks or disturbances and not proactively intervening to break cycles (Davoudi, 2012).

Another major issue with the ecological construction of resilience its "almost power-blind and a-political" nature (Davoudi, 2012, p.306). In social contexts, **resource distribution impacts capacities for resilience**, it does not address unbalanced resource access and then tends to reproduce existing inequalities (MacKinnon and Derickson, 2012). It is said to embody a **competitiveness logic** which means as resilience increases for some it may decrease for others (Davoudi, 2012; MacKinnon and Derickson, 2012). **The resilience of what and for whom are questions that leave us focusing on particular places and groups of people**.

A central issue here is **different understandings of resilience**, from ecological to social and economic perspectives. Skerratt (2013, p.36) observes two schools of thought in resilience thinking, the "**reactive bounce back**" versus "**proactive' human agency**" approaches. The

latter sees "human agency as central to resilience – at multiple levels of the individual, community, region and even country level – within a context of constant (rather than episodic) change" (Skerratt, 2013).

In the community context, Skerratt (2013) looks at how communities can take on a proactive approach to building resilience, rather than just reacting to shocks and disturbances, illustrated by the example of community land trusts in Scotland. Using resilience to conceptualise ruralisation is aligned with the evolutionary, socio-ecological approach that incorporates this proactive human agency approach.

Socio-ecological interpretations have also come to recognise the human action issue in social contexts, acknowledging that **human action can intervene to shape different stages of adaptive cycles** (Davoudi, 2012). Holling (2001, p396) emphasises not all adaptive cycles are the same because different types of systems exist (ecological, biological and human). Features of **human systems are the ability to pre-empt, prepare and intentionally intervene**, capable of "foresight and active adaptive methods that stabilize variability and exploit opportunity" (Holling, 2001). **Based on this understanding of resilience there is room for different kinds of response. Resilience as a process can both be proactive and reactive**.

A further issue is around socio-ecological resilience and self-reliance. Resilient places and people can empower themselves to adapt, respond and react to issues avoiding negative consequences. This is said to represent a shift in responsibility, towards people and places, also with the effect of reducing the role of the state. Government support can focus on building resilience capacities to drive self-reliance, as the state steadily steps back shifting responsibility to communities and individuals (Davoudi, 2012; MacKinnon and Derickson, 2012).

To help retain the value of what resilience offers we finally also introduce another linked concept below that can be used alongside resilience to help very clearly overcome these critiques.

3.3.4 Resourcefulness

MacKinnon and Derickson (2012) propose the idea of **'resourcefulness'** as a process that should be fostered and is constructed as an alternative concept to resilience. It is positioned as **overcoming the limitations of resilience around unequal resource distribution and power, as well as lacking room for more progressive, radical, system change.** In rural studies however some have come to use the concept of resourcefulness alongside resilience (e.g. Gibson and Gordon, 2018; Mahon and Hyyryläinen, 2019). A **key strength** of resourcefulness for rural studies scholars is the **specific attention it gives to local knowledge**, as well as **approaches taken, and driven by, communities themselves to address change, rather than externally devised measures.** For example, in the context of rural cultural and creative practice and resilience, Gibson and Gordon (2018, p.261) draw on this concept and propose the concept of 'rural cultural resourcefulness' where "cultural

norms, meanings and practice inform creative and inventive everyday responses to change among groups of rural actors". Such norms used as examples include endurance which can underpin the survival of farming and rural cultural activities (Gibson and Gordon, 2018). For analytical purposes within the RURALIZATION project drawing on aspects of both concepts could be useful to construct our own, suitable and appropriate perspective.

The idea of resourcefulness also closely **links with adaptability and transformation**, key underpinning ideas within evolutionary resilience. For example, in the context of economic recession post-2007 and the vulnerability it highlighted in regional economies, Bristow and Healy (2015, p.242) describe the capacity of regional actors to adapt as a 'black box' that needs opening: "resilience will have less traction analytically unless we can move to better understand who has capacity to adapt within regions and how". Resourcefulness is also highlighted here as a useful operational concept that has a clearer structure for analytical purposes than resilience theory, which has limitations when trying to apply and measure it comprehensively.

Resourcefulness is underpinned by a **normative vision** "in which communities have the capacity to engage in genuinely deliberative democratic dialogue to develop contestable alternative agendas and work in ways that meaningfully challenge existing power relations" (MacKinnon and Derickson, 2012, p.263). It is not externally defined but determined within communities but also outward-looking, avoiding the 'local trap'. It is relational valuing connections external to communities across spatial scales. Central to enabling this are **four interrelated dimensions**. The first is **resources**, both hard (e.g. public investment) and soft (e.g. social capital), and their equitable distribution. **Skills** (e.g. understanding of public policy and government procedure) and **technical knowledge** (e.g. economics, technological) are distinguished as a separate enabler, as well as **indigenous or 'folk' knowledge**. This perspective on knowledge also complements the RURALIZATION project view of knowledge as part of innovation. Also **vital is cultural recognition** that can motivate and provide confidence. MacKinnon and Derickson (2012, p.265) argue resourcefulness: "challenges the conservatism of resilience policy and activism by attempting to foster the tools and capacities for communities to carve out the discursive space and material time that sustained efforts at civic engagement and activism, as well as more radical campaigns, require".

4 Rural Innovation

The RURALIZATION project explores rural areas as a context for economic activities and within this is seeking the new frontiers of regenerative rural development where rural areas possess opportunities for economic and social sustainability for new generations. Innovation is an important guiding concept underpinning this outlook. Innovation is key to creating opportunities and solving problems in the rural economy. Innovation is a multi-faceted concept that links to new products and processes, as well as their adaptation and transfer. It is about improving how things are done, as well as addressing problems. Based on this understanding, innovation emerges as a key enabler of a process of ruralisation. Studying innovative practices is a core part of WP5 and WP6 which also means concepts relating to rural innovation (e.g. the rural innovation system, networks and innovation) potentially provide analytical tools for the RURALIZATION project. This section explores the concept of innovation in a rural context.

4.1 Context and relevance

Many argue **innovation is key to creating new opportunities in the rural economy** and is crucial to stimulate growth aligned with sustainability (e.g. Atterton, 2016; Freshwater, 2012; Cork 2.0 Declaration, 2016). According to Atterton (2016, p.212) "Innovation may be the best opportunity for rural firms to increase economic growth as it has the potential to offset limitations in the number and skills of the local workforce and can play a role in opening access to external markets". Innovation is important for enhanced productivity, driving improvements in efficiency, while doing more with less (Freshwater, 2016).

Innovation in a rural context is about new products and technological advances that can aid economic productivity and growth, but it is also about a lot more. Social and ecological innovation are central to an integrated approach to rural regeneration. Innovation is also important to support transformation towards a more resilient rural economy.

Innovation also enables rural economies to respond to change in a globalised economy (Atterton, 2016). This could mean responding to new demands on a number of levels. Innovation in rural areas can be understood as driven by what can be largely understood as urban-generated demand (e.g. agri-tourism, artisan food) or rural-generated demand (agri-technology) or what might be understood as more universal demands (e.g. e-services) (Mahroum, 2007). **Innovation can help existing rural industries, such as agriculture, improve their competiveness and productivity**. For example OECD (2014, p.49) outline how it supports competitiveness in the context of trading goods and exposure to global competition: "Innovation can be an important way for rural regions to overcome the costs of exporting goods, either by providing cheaper ways to produce something or by creating a better product that customers in other regions are prepared to pay more for". Further to this, if rural regions can **build on local resources to generate growth opportunities** they

become less reliant on external or exogenous forces to do the same (Atterton, 2016). Natural resources are a crucial basis of rural development (van der Ploeg et al., 2008). Hence when thinking about innovation in a rural context the relationship with natural resources is key - they must be harnessed sustainably with innovation having a key role to play (Mahroum, 2007).

Social innovation can potentially respond to the development opportunity highlighted by Bosworth and Glasgow (2012) in serving the health and social care needs of older residents in rural areas. Further to this, Atterton (2016, p.228) argues if rural areas harness innovation to respond to this, it presents an opportunity within a challenge: "…a more positive attitude to this process will enable rural areas to be at the cutting edge of responses to population ageing". **Rural innovation can therefore also be understood in terms of alternative, more environmentally and socially sustainable approaches to growth and development.** For example, newcomers to farming are understood to bring high levels of innovation and new ideas to agriculture which Monllor i Rico and Fuller (2016) argue represents a new rurality underpinned by agro-social principles such as social commitment, local scale, cooperation and autonomy. Ferraresi (2018) identifies the emergence of 'neo-rurality' linked to a more circular, cooperative socio-economy focused on producing goods that serve social needs and reconnecting nature and culture in agriculture. **Rural ecological and social innovation is not generally firstly driven by the search for economic opportunity but this does not mean it will not ultimately generate it** (Atterton, 2016). A full appreciation of rural innovation, valuing new ideas and shifts in thinking could mean: "rural areas could serve as important 'test beds' for exploring alternatives to pursuing economic growth as the key driver of individual and collective action, such as social justice, well-being or environmental sustainability" (Atterton, 2016, p.216). As highlighted by Bock (2016) **innovation also relates to improving society, to deal with inequality and exclusion,** but also to enable rural society to develop **greater capacity for responsiveness to change, also building resilience**.

4.2 Conceptualisation

Innovation can be overlooked in rural areas because of how it is measured using indicators such as numbers of patents or investment in research and development (Freshwater, 2012; OECD, 2014; Freshwater, 2016). Conditions more facilitative to innovation, such as proximity and connectivity, are associated with urban and not rural areas. Nevertheless, innovation is identified as part of how rural areas have renewed themselves presenting a picture divergent from the traditional stereotype of a declining rural (Mahroum, 2007). Also **individuals and communities may not recognise their work as innovative.** Dargan and Shucksmith (2008) find this rings true in relation to LEADER projects that are socially and culturally innovative. **Rural areas are challenged to create *formal* innovation systems** involving universities, government agencies and businesses, but other forms of innovation are very possible (Freshwater, 2012). Once the definition of innovation is expanded rural areas appear differently (OECD, 2014).

4.2.1 The nature of rural innovation

Freshwater (2016, p.143) explains innovation in broad terms as "…the generation of new products and processes that either creates something new, or introduces a better way of providing something that already exists". But beyond this, **innovation is a complex phenomenon with a number dimensions.** First, we can think about defining it in functional terms. It has both **"technological (products and processes) and non-technological (marketing and organisation)**" aspects (OECD, 2014, p.50).

> In the context of innovation in rural areas, Esparcia (2014) identify a number of different types of innovation – new products (e.g. agro-tourism) technological innovation (e.g. technologies for irrigation) innovative processes (e.g. new cooperation structures) and attitudinal innovations (e.g. cooperation). Fundamentally, OECD (2014) emphasise innovation in a rural context should be understood beyond science and technology. A more nuanced, rurally applicable understanding of innovation is concerned with innovative processes and organisation as much as innovative products.

Innovation is a key principle of LEADER and is understood as important to finding "**new responses to the specific problems of rural areas**" (EC, 2006, p.12). LEADER emphasises the need for a broad understanding of innovation in rural contexts and acknowledges that as part of the rural innovation process can be "the **transfer and adaptation of innovations developed elsewhere**, the modernization of traditional forms of know-how, or finding new solutions to persistent rural problems" (EC, 2006, p.12). **Rural innovation** is about **methods of doing things better**, such as public service delivery. It is about changed attitudes and new ways of organising (Esparcia, 2014). It is also **not just about the completely new**. The approach of the RURITAGE project demonstrates this where it is exploring the idea of 'systemic innovation areas' in the context of cultural and natural heritage (pilgrimage, local food, migration, resilience; arts and festival) assessing them for their existing and future potential contribution to rural regeneration (RURITAGE, no date). **Innovation can also combine different sub-types**. Rural ecological innovation for example can see rural eco-entrepreneurs combine technological and organisational innovation (Galliano et al., 2017), highlighting **new ways of organising as important to innovation**. Innovative governance or organisational innovation is also identified by OECD (2014) as particularly important and key to the broader understanding of innovation relevant to rural contexts. **New ways of organising or new partnerships might improve efficiency and reduce costs of service delivery for example. Adapting a governance approach or way of working from one area may have relevance to another**. Innovation can result in new synergistic relationships. For example Dematteis and Magnaghi (2018) show how multifunctional agriculture parks have helped to create synergistic relationships bewteen urban and rural areas.

Another feature of innovation is its **potential to create 'disruptive' effects**, for example innovations that cause fundamental disruptions in how a market functions. Freshwater (2012, p.6) outlines examples of how disruptive innovation can originate in rural places with the "larger global effect…ultimately the main difference between a normal rural innovation

and a disruptive one". But Freshwater (2012, p.6) also argues that **more locally felt innovation also has a significant impact** on wider positive transformation of the economy: "it is conceivable that a **normal rural innovation** that leads to modest expansion of a specific SME has **similar impact to the local effect of a disruptive firm**".

Innovation can be understood as a key driver of transformation which also clearly links it to the ruralisation process.

Innovation is **possible in all types of sectors**, from traditional rural sectors, such as forestry, agriculture, tourism and craft, to those where science and technology is at the core (OECD, 2014). But **rural innovation is thought not to focus in technological economic sectors**. Social and cultural innovations are thought to be more prevalent in rural areas than scientific/technological innovation. For example, based on research emerging from the CORASON project, Dargan and Shucksmith (2008, p.288) find that in the context of rural innovation and LEADER projects, innovation is not in "hi-tech sectors but have tended to be in agriculture, tourism and services". This is also perhaps somewhat attributable to a fact highlighted by OECD (2014) that **innovations emerging from traditional industries can be focused on solving specific problems in new ways** and generally are not patented. They also highlight that the businesses or universities that patents are registered to (and hence measured in statistics as the place of innovation) are not often rurally located, while related divisions of these organisations could have played a part in the development process. This is particularly obvious in the EC led, European Innovation Partnership for Agriculture Productivity and Sustainability (EIP-AGRI), which aims to contribute to smart and sustainable growth, driven by local rural issues or problems. The multi-actor approach used in solving issues allows local farmers to work alongside researchers, advisory services and other to find an innovative solution (EU SCAR, 2012).

4.2.2 Rural innovation: Systems and individuals within systems

Innovation is generally understood as not occurring in isolation but as part of a system made up of different actors such as institutions (e.g. universities, NGOs, government agencies), SMEs and individual entrepreneurs (OECD, 2014).

In the context of **farmer innovation**, the AgriSpin project finds the **environment is crucial to stimulating innovation**, with supports important at different stages of the 'innovation spiral' (initial idea, inspiration, planning, development, realisation, dissemination and embedding) (Wielinga and Paree, 2016; Pennington, 2017). **Innovation also occurs in a specific social context** (Bock, 2016). Esparcia (2014, p.11) outlines how rural innovation happens as part of a 'territorial dynamic' where there is a "network of economic, institutional and social actors…who also show a high degree of commitment with the territory in which the project is being carried out. At the same time, part of this network of actors constitutes a system of institutional support … [and] … the presence of 'knowledge capital' and knowledge

exchange". Based on research carried out as part of the DERREG project, Wellbrock et al. (2012, p.12) find that rural regional learning and innovation is an "inextricable web of interrelations between supportive policies, grassroots development initiatives and facilitators of learning and innovation, the many stakeholders involved and the various activities employed". They also note because of this complexity, there is some **difficulty in unravelling these interrelations so as to understand their workings, but also the importance of teasing out these interfaces and relationships** so we can understand how to better build collective agency (Wellbrock et al., 2012; 2013). Wellbrock et al. (2013, p.428) explain "…understanding the way interfaces between different domains of activities are operationalised and supported in the rural, and how this in turn impacts on the process of joint learning and innovation, provides a more complete picture of the dynamics involved in building collective agency". They also argue that **innovation can happen more effectively within a particular framework and that public policy support should reflect this**. This framework is the '**learning rural area'** (see Figure 6) which includes attention to the rural area itself, its assets and people; the knowledge support structure and public administration.

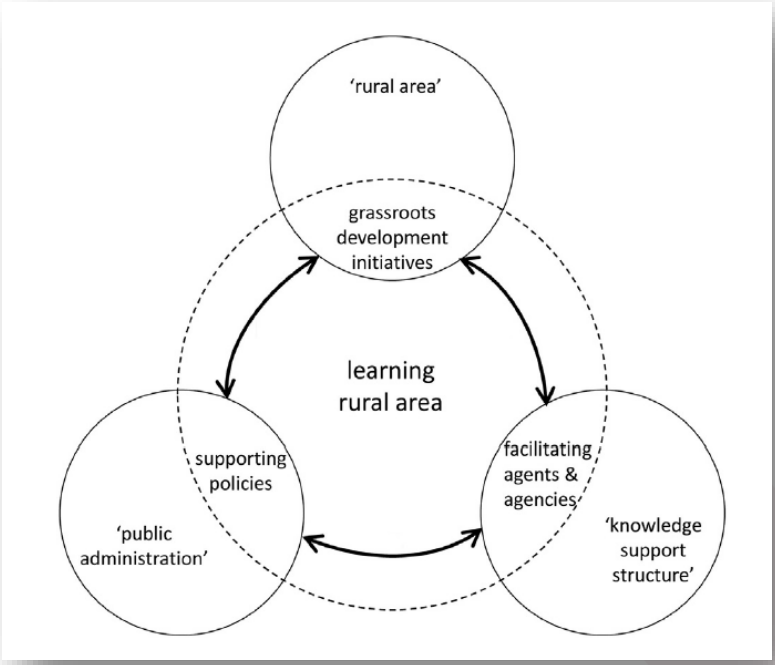

Figure 6: Framework for an integrated perspective on learning rural areas

Source: Wellbrock et al., 2012; 2013

Innovation and entrepreneurship are strongly connected processes in rural contexts (OECD, 2014; Atterton, 2016). Rural entrepreneurship is important to stimulate rural innovation and can emerge from innovation (North and Smallbone, 2006; OECD, 2014). The link between rural entrepreneurship and innovation highlights the importance of individuals within the innovation system as part of rural innovation.

Rural entrepreneurship can mean individuals innovate through taking on new roles, such as farmers as environmental project managers, rural tourism or food entrepreneurs (OECD, 2014). Atterton (2016, p.221) argues **individual creativity or user-innovation**, such as overcoming challenges or responding to new opportunities, is a **key part of rural innovation** "…in rural areas this is likely to be the most probable form of innovation, which is led by entrepreneurs". In the social innovation context, Secco et al. (2017, p. 194) discuss how **innovators are: "key leaders and first drivers of innovation**…identifiable individuals who had the idea, invented it, discovered it or were attracted to it". But in many respects, **they do not act alone.** 'Followers' as co-creators, supporters or adopters and 'implementers' are highly significant in realizing and consolidating the idea (Secco et al., 2017). In the context of stimulating farmer innovation, the findings of the AgriSpin project highlight how innovation initiators need to **find the right partners** at the inspiration stage and the group needs to come together and find space for experimentation at planning stages of innovation, but also that this part of the process lacks attention. EIP-AGRI is highlighted as an important programme to potentially fill this void (Wielinga, 2017). **To understand rural innovation therefore, it is essential to focus simultaneously on rural entrepreneurs, as well as their environment** (Bosworth and Glasgow, 2012).

4.2.3 Innovation systems and translocal networks

Networks within innovation systems are also an important driver of rural innovation (Murdoch, 2000; Esparcia, 2014). In particular, scholars such as Dax (2014) and Copus et al. (2011a) discuss the importance of networks of a 'translocal' nature.

Networks of translocal nature relate to the argument that **geographical distance has become less important**, but a common motive and ability to connect through networks, which can be near or far, urban or rural, is important to economic vitality. This 'organised proximity' is based on networks that are 'translocal' and play a role in the learning process that underpins innovation providing access to external knowledge supporting local innovation (Copus et al., 2011a). Copus et al. (2011a p.122) argue "…linkages to sources of information, innovation and business opportunities and the capacity to exploit them, can become more important than proximity to resources per se". Copus and de Lima (2015, p7-8) highlight the need for nurturing of specific "relationships and 'proximities" to facilitate "'smart sustainable and inclusive growth'" in rural areas.

In the **social innovation** context, the findings of the RURINNO project help to illustrate the dynamics and importance of translocal networks. RURINNO finds the activities of social entrepreneurs involve networks both at local and extra-local levels as **embedded**

intermediaries. Being part of such networks "allows them to mobilise ideas, resources, and support in other contexts to the benefit of rural regions" (Fink et al., 2017, p.10). Social entrepreneurs bridge spatial, social and cultural disconnections between rural communities and the wider world. They act as **intermediaries connecting different 'worlds'** that generally are disconnected. This facilitates innovation in rural regions which often involves adaptation of ideas and knowledge from elsewhere to a specific rural context. Social entrepreneurs recognise how new tools and projects could apply in their own locality to address needs and work to develop similar re-contextualised activities or **'innovation by re-contextualisation'**. It is also argued that the local embeddedness of social entrepreneurs makes it more likely that novel ideas will gain the support of local decision makers and communities, while also part of the social innovation is changed attitudes (Richter, 2019). This also brings wider benefits as they are potentially more effective actors than local political actors, whose networks can be more locally based, limiting the knowledge access and influence. The description by Richter (2019, p.185) is illustrative: "Intermediaries not only bridge social and spatial but also cultural gaps. They represent the capability to link different worlds, whereas most of the other players are either involved in one or another of these environments".

Effectively acting in translocal networks implies rural SMEs have the potential to develop and **benefit from global markets and ideas** when translocal networks are effectively tapped into. These networks are also important to **overcome rural innovation challenges**. This can help overcome the challenge of the lack of a critical mass of innovation actors, such as higher education institutions and specialist research facilities noted by Interreg Europe (2019). But tapping into translocal networks in rural and peripheral places is said to rely strongly on interconnected economic and social relations understood in conceptual terms as '**translocal embeddedness'** (Copus et al., 2011a; Dubois, 2016). For example, Copus et al. (2011a, p.126) argue it needs an effective business network which "depends not only upon its local network 'density', degree of 'embeddedness' and the associated human and social capital, but upon its connections to more distant sources of specialist information. These two capabilities are known as 'bonding' and 'bridging' respectively. In essence, bridging capability, channels information into the local network, whilst bonding distributes it among local firms and entrepreneurs, facilitating collective learning". This does not however remove the need for entrepreneurs to also be part of local networks (Atterton, 2016; Dubois, 2016). Dubois (2016, p.10) finds that **involvement in translocal networks does not loosen local embeddedness** but "continued internationalisation often necessitates the establishment of more efficient forms of local collaboration, in order to collectively address issues that arise from increased international exposure…translocal embeddedness introduces the idea that **global engagement can act as a cohesive force for the local**, as it pushes local actors to develop new avenues for collaborating, thus creating a new meaning of how the local matters in an era of globalisation".

This benefit however, **does not just happen and is not without challenges**. Research by Dubois (2016) finds that this approach requires **significant effort** on the part of rural entrepreneurs to **make connections**, **build and sustain trust**. Also **rural areas may face challenges to operating logistically in translocal networks**. For example, challenges include poor quality digital connectivity alongside high travel costs and time (Freshwater, 2016). In

the rural development and innovation policy context, Dargan and Shucksmith (2008, p.288) argue there is a "need to adjust rural development policies and practices to the stretched geographies of knowledge production and acquisition, thinking beyond the boundedness of territories (rural or urban) to see each place and its development in relation to national and international networks". This view fits within a networked, neo-endogenous view of rural development, where both the local and non-local is important to and shapes development. Atterton (2016) observes networking support for rural innovation and entrepreneurship is common but drawing on existing research observes it has tended to focus on networking within specific sectors or local geography and should better reflect and support translocal network creation.

4.2.4 Knowledge and innovation

Knowledge-related aspects of human capital are an important underpinning driver of innovation capacity. Knowledge itself is a complex concept and rural innovation can rely on a combination of formal and informal knowledge.

Dargan and Shucksmith (2008) review innovation theory and note a shift in emphasis away from a sole focus on linear paths where scientific innovation and novel discoveries are applied by practitioners and towards more multi-directional paths, systems and networks in innovation. In the context of the CORASON project, Tovey (2008, p.188) observes a shift in understanding of **what is defined as expertise** in development contexts and reviewing debates on the subject observes: "science no longer holds the authoritative claim to truth that it was once credited with, and what counts as 'expertise' is increasingly contextualised and localised to the situation of its construction and application. That it is open to challenge and even emendation from non-accredited experts". Tovey (2008, p.188) goes on to argue there is **more than one way of knowing**: "They make available the possibility of talking about knowledges in the plural, as diverse and differentiated, rather than in a singular identification of knowledge with science, and point to relations between different forms of knowledge as an aspect of development that needs more attention". The process of 'novelty production' is one of the underpinning dimensions of van der Ploeg et al.'s (2008) 'rural web' of actors and resources underpinning rural development. **'Novelties'** such as new knowledge, ways of working, or a combination of these drive the ongoing, continuous capacity of rural regions to "improve processes of production, products, patterns of cooperation etc." . **An important distinguishing trait of novelties is they are based on local, contextual knowledge and not scientific knowledge**.

Naldi et al. (2015) discuss how resources supporting innovation in urban contexts can be research and development investment and more formally developed knowledge through advanced education, while **in rural innovation contexts knowledge learned more informally through experience and in practice is important**. **But it is not that one form of knowledge trumps another.** Dargan and Shucksmith (2008, p.288) identify the need to and importance of "bringing together knowledge forms in collective learning processes". The words of Esparcia (2014, p.3) are illustrative on how knowledge combines to result in innovation: "the creation, adoption or adaptation of new knowledge by the actors, combining their initial

stock of implicit tacit knowledge with other explicit knowledge (offered or contributed by advisors, consultants, development actors, etc.)". **More everyday knowledge and learning is part of innovation with pre-existing knowledge adapted or used in new ways** (Dargan and Shucksmith, 2008). **Knowledge is something that can be co-produced** (Tovey, 2008). In the context of stimulating farmer innovation, the AgriSpin project highlights how learning by doing, learning with and from others is crucial (Wielinga and Paree, 2016). The concept of **'vernacular expertise'** proposed by Lowe et al. (2019, p.36) helps to capture this: "The expertise people have about the places in which they live and work that is place-based but crucially nourished by outside sources and agents". Vernacular expertise has a number of sources that are both local and extra-local and can be made up of different types of knowledge. It should be non-hierarchical and does not elevate one form of knowledge above another (e.g. lay or expert, social or scientific). It should be iterative, as well as generated and diffused via multiple pathways (e.g. peer 'expert' to peer 'expert'; 'expert' to practitioner; practitioner to 'expert'; and practitioner to practitioner). It is argued this 'expertise' is crucial to rural development and focusing on ways to mobilse it is important (Lowe et al., 2019).

4.3 Critique and Implications

4.3.1 Need for a fundamental policy shift

Earlier we pointed to the lack of recognition of rural innovation's different nature means it can be under-recognised. This is more than an academic problem of definition. If rural areas are not seen as places with potential for innovation to generate new opportunities, policy supports and investment to facilitate innovation may not be directed there (Atterton, 2016; Freshwater, 2016). The idea that rural areas are not innovative is a misleading assumption that can impact the shape of rural policy (Atterton, 2016).

There are exceptions however, where rural policy is focused on innovation to generate new opportunities, such as the LEADER programme and the more recent EIP-AGRI programme. McCarthy (2019) for example explores an Irish EIP-AGRI case study in relation to agro-ecological innovation. The importance of the EU LEADER programme is recognised in supporting greater recognition and stimulation of innovation in rural contexts, particularly in relation to social and cultural practices as part of innovation (Dargan and Shucksmith, 2008). Nevertheless, Atterton (2016, p. 228) argues **a more fundamental policy shift is needed away from core regions as the focus of innovation policy and towards one that is more cognisant of the nature, potential and needs related to rural innovation** and "recognises that innovations can be small scale and led by an individual with a creative idea to tackle a problem; they need not involve huge R&D expenditure or large numbers of patent registrations".

4.3.2 What kind of innovation is needed for rural jobs, social and economic opportunities?

The **potential in social innovation** to provide novel responses to rural decline challenges is well highlighted. The EU projects RURINNO and SIMRA provide good evidence of its potential. As part of the SIMRA project, **social innovation is understood as an important catalyst for rural development and a social process underpinning the endogenous approach**. Social innovations provide "ways of enhancing system dynamics of marginal rural areas and thus the capacity of social-ecological systems to cope with change in innovative ways" (Kluvánková et al., 2017, p.20). It is defined as: "the reconfiguring of social practices, in response to societal challenges, which seeks to enhance outcomes on societal well-being and necessarily includes the engagement of civil society actors" (Polman et al., 2017, p.4). Drawing on innovation theory, social innovation is a type of innovation where "social innovations are understood as outputs, and where novel ideas are transformed to products and services meeting social demand and potentially enhancing social well-being" (Kluvánková et al., 2017, p.20). Social innovation is composed of a set of socio-economic processes that work along different pathways, such as social entrepreneurship, self-organisation or authority path (Kluvánková et al., 2017). RURINNO focuses on how social enterprises play a social innovation role in structurally weak rural regions. Social innovation via social enterprise addresses gaps in public service provision and/or introducing innovative new solutions for service delivery, while also more broadly helping address rural issues such as social exclusion, unemployment and poverty (Fink et al., 2017; Lang and Fink, 2019).

In the context of marginal rural areas, Bock (2016) notes **social innovation is promising but also that it has become something of a 'new panacea'** for reaching multiple goals including development and growth alongside social inclusion and inequality. OECD (2014) argues that crucial to rural economy growth is increasing productivity, driven for example by innovation. Freshwater (2016, p.143) points to the **importance of technological innovation** as a driver of productivity increases allowing "more or better outputs to be produced with the same set of outputs". But Dargan and Shucksmith (2008) argue that in the context of LEADER and rural innovation at least, it is generally understood in terms of social and cultural innovation, and not scientific/technological innovation. They note that this is in contrast to urban regeneration policy context where the three types are generally included. **A lack of strong focus on technological innovation in rural contexts misses an opportunity to enable it to drive productivity.** Freshwater (2016, p.145) also notes that productivity is more crucial in some rural areas than others "Productivity is crucially important to regions that are not experiencing population increases…without an increase in the number of workers the only path for economic growth is through increases in worker productivity". Also important to note in the context of rural innovation and productivity is the unclear impact on increased employment. It can be a **double-edged sword**. Freshwater (2012) highlights how rural innovation in one firm can result in making another uncompetitive, which in turn impacts its employees. Also if innovation improves productivity without increasing output it can result in worker redundancy hence reducing employment. In addition, some tentative suggestions have been made that social innovation is less focused on agriculture (Bock, 2016). The SIMRA project case studies however look at social innovation in the context of community agriculture.

Nevertheless, social innovations in agricultural contexts, such as relating to new entrants to farming and access to land, or those from other areas potentially interesting for transfer and adaption, appears a neglected area important in the RURALIZATION project context. There is also an argument for an expanded focus on innovation in all its forms and combinations, social, cultural, ecological and technological, etc. to enhance opportunities in rural areas, within an integrated framework that captures benefits and unintended consequences.

Important also are business models that can support innovation, such as social enterprise. For example, the RURINNO project highlights "Social enterprises are hybrid organisations at the intersection of state, market and civil society. Their ability to systematically cross boundaries is a crucial precondition for developing innovative solutions and foster social change" (RURINNO, 2018, p1).

4.3.3 Rural enterprise, innovation and regeneration: how and who?

Atterton (2016) highlights how **evidence is mixed on innovation in rural enterprise**. Some research finds rural enterprise is more innovative than urban, while others point to challenges, such as the lack of proximate collaborators restricting innovation. Attention to the **assets and attributes of rural places** could be important in explaining this. **Place has a strong influence on entrepreneurship** (Lang et al., 2014; Korsgaard et al., 2015; McKeever et al., 2015; Müller and Korsgaard, 2018). Rural entrepreneurs need a range of assets, from financial capital to social networks, to enable innovation (Atterton, 2016). This also includes cultural resources, such as confidence to act on an idea that is potentially innovative (Freshwater, 2012). Attention to wider issues, such as gender, is also important. For example, research by Ní Fhlatharta and Farrell (2017, p.17) has found for female entrepreneurs rural areas can be a "challenging and male-dominated environment" restricting their pathways to innovation and entrepreneurship.

There appears a need to understand the influence of place on entrepreneurship more deeply and work to address a research gap relating to the influence of local spatial context on the activities of rural entrepreneurs.

Müller and Korsgaard (2018) identify two important, more specific ways place has influence - through local resource endowments (e.g. different forms of capital e.g. human, social, financial, physical) and spatial bridging, similar to the idea of translocal networking. This impacts rural entrepreneurship capacity and ability to overcome challenges. Mahroum (2007) gives an overview of some of the general challenges facing rural capacity for innovation: dispersed and low business density limiting knowledge exchange and to stimulate competition; dominance of SMEs that often lack finance to invest in innovation; and weakening skills base due to out-migration**. But not all regions are equally resourced, or under-resourced, and understanding these differences is important to inform place-tailored policy responses**. For example, rural digital infrastructure and skills limit or support

how rural areas can tap into new innovation and entrepreneurship opportunities, such as new ways of doing things, improving industry productivity and new products and services (Vironen and Kah, 2019).

Bock's (2016, p.566-567) comments on this issue in the context of social innovation in remote rural areas are illustrative: "Can we really expect social innovation to step in where the resource base for regeneration is seriously under pressure?". This also raises important questions for the RURALIZATION project around the capacity for innovation and entrepreneurship in different rural areas, the actual potential for creating new opportunities and unmet needs that policy can address.

Atterton (2016) argues that **entrepreneurial individuals at an adequate level in rural areas are crucial to rural economic growth**. Social entrepreneurship case studies explored by Richter (2019) include entrepreneurs that are either **newcomers or return migrants** who bring their own external knowledge and networks to bear on the rural social context they operate as a social entrepreneur. Further evidence is provided by Atterton (2016) who observes that a range of existing research suggests in-migrants are more likely to partake in entrepreneurship than locals. They also may have a head-start as part of translocal networks. Bosworth and Atterton (2012, p.272) argue that **in-migrant business owners in particular have well developed local and extra-local networks**, which better support development than local networks alone: "they employ network resources to the betterment of the local economy with spin-off benefits for staff, local suppliers, and the vitality of the wider rural economy. By drawing on their extra-local social networks, they also have the potential to act as agents of social transformation in the local economy to which they move". Stockdale (2006) highlights that **returning youth are not essentially a driver of economic regeneration. Most rural youth returnees compete with the existing population for already limited jobs**. While some self-employment was identified by Stockdale (2006) generally youth returnees were found not to create employment for others. Human capital is an important resource for endogenous rural development but encouraging younger return migrants is not necessary going to stimulate endogenous rural development through small business creation as they are less likely to start and have the capacity to successfully run a business, while **those at later life stages are more likely to have the skills and capacity** to do so (Stockdale, 2006). Older, pre-retirement migrants to rural areas can be the source of new business creation, however tend to be driven by lifestyle preferences and more socially engaged entrepreneurship than a direct desire to be an entrepreneur and generate economic growth (Stockdale and MacLeod, 2013). Rural return migrants, outside of the youth bracket, but younger than retirees however can be highly beneficial to rural areas. According to Farrell et al. (2012) migrants can return with various forms of social, cultural and financial capital, enhancing local economics through self-employment and business development.

In the context of generational renewal and rural regeneration, just thinking in terms of rural youth, innovation and entrepreneurship does not respond to the complexity and non-linear nature of rural regeneration drivers. Other groups, such as in-migrants, return migrants and older people, can be the drivers and creators of rural innovation and entrepreneurship (Bosworth and Glasgow, 2012; Farrell et al., 2012).

4.3.4 Smart Specialisation and Smart Development

Da Rosa Pires et al. (2014) argue smart specialisation provides a useful framework for rural innovation policy. The smart specialisation approach is complementary not just to rural innovation, but also rural regeneration in a number of ways. It recognises the diversity of rural places and therefore by extension the resources and challenges present (OECD, 2014).

Smart specialisation represents a **shift in focus from a sectoral to integrated, place-based approach, aiming to capitalise on interactions with the wider economy** for more balanced rural development bringing social, economic and ecological value (Da Rosa Pires et al., 2014). It also sees a role for extra-local actors and knowledge. While smart specialisation is fundamentally place-based, a smart specialisation approach should not happen in isolation from wider national and international priorities and can take direction from the wider policy context (OECD, 2014). The smart specialisation process also demands exploration of the local resource base and market access issues (OECD, 2014). It also must support the finding of future innovation pathways or the "the entrepreneurial search" process enabling entrepreneurs to find and exploit opportunities (McCann and Ortega-Argilés, 2015, p.1292). Three important facets can be distinguished as part of the smart specialisation policy concept – embeddedness (locally rooted and connected), relatedness (knowledge flows, also between sectors with complementary knowledge, or related variety) and connectivity (strong networks and human capital mobility) (Naldi et al., 2015; McCann and Ortega-Argilés, 2015).

Smart specialisation is an attractive policy concept, but its realisation is not simple and potential unclear in all types of rural contexts (Naldi et al., 2015). The smart specialisation approach needs significant public support and investment. Tailored strategies for specific contexts are needed (McCann and Ortega-Argilés, 2015; Naldi et al., 2015).

Regional authorities need freedom and resources to develop policies that support the discovery learning process and respond to local specialisation opportunities (OECD, 2014). Broad ranging partnerships between public and private sectors are also vital to identify local obstacles to growth and appropriate policy responses, as well as monitoring actions to assess their effectiveness, gathering data that can feed-back into enhancing the specialisation strategy (McCann and Ortega-Argilés, 2015). There is also some debate around the relevance of smart specialisation in different types of rural contexts. McCann and Ortega-Argilés (2015)

argue that smart specialisation can be appropriate in both urban and rural places but the **scale of regions is important to the suitability of smart specialisation**. It is more appropriate in **intermediate regions closer to urban areas with a sufficiently large population** but less relevant in isolated, peripheral regions that lack population scale that leads to agglomeration or advantages from dense networks (McCann and Ortega-Argilés, 2015). Freshwater (2006) argues that because of distance from markets, the lack of enterprise density and lack of critical mass within the local market, rural economic development generally cannot benefit from agglomeration effects. McCann and Ortega-Argilés (2015, p.1298) identify potential particularly in "industrial production zones" in intermediate regions as "suited to a mix of R&D, training and networking programmes, precisely because of their scale". That said, McCann and Ortega-Argilés (2015) also note that digital technology could enhance the potential of remote regions to become part of normally proximate networks. If peripheral regions can "build specialized links to urban supply and demand" smart specialisation could be a realistic option, such as in for example amenity-based or creative economy sectors (Naldi et al., 2015, p.99).

Smart specialisation is fundamentally about "place-specific innovation policies that are based on the capabilities and potentials of different regions" (Naldi et al., 2015, p.92). What must underpin identifying its potential is first **better understanding of these place-based capacities** and "rigorous self-assessment of a region's knowledge assets, capabilities and competences" and then "the establishment of empirical baselines, and the explicit ex-ante linking of policy priorities to ongoing monitoring and the use of results/outcome indicators" (McCann and Ortega-Argilés, 2015, p.1300).

Despite the potential lack of ubiquity in applying smart specialisation approach with ease in rural areas, the above discussion shows that smart specialisation potentially offers a path to harness innovation potential within the rural economy, but only if tailored to the diversity of rural places. The RURALIZATION project works to understand the specific circumstances and drivers that make some rural areas perform better than others. It responds, in the specific context of rural newcomers, new entrants to farming, succession and access to land, to the need highlighted by Naldi et al. (2015 p.99) to deconstruct the "the different components that are included in the broad concept of place-specific characteristics and how they can be expected to influence the growth potential for different rural regions".

4.3.5 Transfer of innovation

Jean (2014, p.114) suggests rural areas can be a: "living laboratory where devices are invented and institutions founded to meet the challenges of today's development issues". Rural innovation has contributed to the more productive and sustainable use of the natural environment and has potentially useful lessons for wider society (Jean, 2014). Highlighting examples of best, or what is more commonly now referred to as '**good practice'**, has become quite common in rural policy and research discourse. Take the ENRD projects database that describes EAFRD funded projects shown to work elsewhere. At the time of writing, it featured close to 500 good practice examples (ENRD, 2019a). Stead (2012) questions the

validity of best practice and the **problematic assumption that such practices are applicable and will be effective in producing similar outcomes in different settings**. Stead (2012) argues adaption and learning is an important part of the successful transfer of best practice, also identifying what aspects of the practice are potentially transferable (e.g. all or some aspects).

These are important considerations for the RURALIZATION project. The project will develop case studies on promising practices of rural innovations. It will also critically review and examine how these practices may transfer to other rural areas to allow for adaptation to wider rural contexts. This raises questions about exactly how transfer and scaling of promising innovations that have been effective elsewhere can effectively happen. Analysis of innovative, promising practices must examine what conditions have enabled them. The capitals framework (section 5 below) provides a potential and adaptable overarching structure to do this. Depending on the case, other concepts many also prove useful and complementary. This could include those described in section three on resilience (e.g. Do cases embody aspects of 'resourcefulness'? Do they help to break path dependence and lock-in?). Also concepts described in this section on innovation may prove useful (e.g. What is the relevance of translocal networks to the practices development and implementation? What aspects within the innovation system support development and implementation of the practice or are individuals as drivers key?). RURALIZATION will then look to other, comparative contexts where these practices are likely to provide solutions. We can then examine are these conditions present in the confrontation regions to support practice transfer? What are the gaps? Are different condition relevant? Other key concepts may also arise of interest in WP specific contexts. For example, in WP6, the focus is also to explore what conditions in these regions impact upscaling of the practice. The question of transferring and scaling innovation has been explored in literature relating to social innovation (e.g. Moore et al. 2015); system innovation and transition studies (e.g. Smith 2007; Elzen et al. 2012) and local food systems (e.g. Friedmann, 2007; Mount, 2012).

5 Capital frameworks

An objective of the RURALIZATION project is to define the specific circumstances and drivers that mean some rural areas do not experience decline, or generally perform better, than other rural areas. Introducing capital frameworks to our key concepts links very closely with this RURALIZATION objective and offers a potential analytical tool to work towards addressing this objective. It can also be linked to more specific areas of interest, for example does a particular combination of capitals enable new entrants to farming and does this differ depending on the rural context e.g. remote rural versus intermediate rural? Introducing capitals frameworks is also intended to provide a complementary conceptual tool alongside the two core concepts of innovation and resilience linking to assessment of capacities for resilience and innovation. Both innovation and resilience highlight the role of different capacities and resources in their realisation. Capital resources also logically become a key part of how the process of ruralisation is conceptualised, acting as an enabler of ruralisation.

5.1 Context and relevance

The **importance of different types of capital (e.g. human, financial, social and cultural),** also sometimes termed resources or assets, is much discussed in European rural development research (Oostindie et al., 2008). Alongside this, local development research has identified various forms of resources, such as social, human, private and public capital, and their distribution, as impacting economic performance (Perucca, 2014). Sørensen (2018) identify a new body of rural development research emerging in the mid-2000s examining the influence of external and internal factors on rural economic development and finding that internal factors are important to explain better economic performance in some types of rural regions and a resultant emerging focus on internal, place-based resources in rural development.

Further to this, **approaches to rural regeneration can be classified based on the assets or resources they focus on as a driver of regeneration**. Rural regeneration can prioritise certain assets as central drivers such as property-led regeneration (e.g. see Gkartzios and Norris, 2011) or culture-led regeneration (e.g. see Duxbury and Campbell, 2011).

New generations are central to the ruralisation process which point us to the importance of human capital. But in addition to this, ruralisation views regeneration as complex and takes an integrated outlook on it. This points us to a multiple capitals approach incorporating a range of different types looking at how they facilitate new generations.

Drivers of the regeneration process also brings us back to the differences between rural areas and the importance of place-based approaches to regeneration (see section 2.2.3). For example, as part of better harnessing the potential within **rural innovation and**

entrepreneurship, Atterton (2016, p.228-9) points to the fact that understanding and responding to the specifics (challenges, opportunities) of place is crucial – one size does not fit all. To do this, we must grasp the diversity of rural places and the specific assets they hold or lack to find an appropriate pathway. Atterton (2016, p.229) also argues "Understanding the nature of these assets and how local actors use them to create more resilient and sustainable places is critical to ensure that policy and practice responses can be shaped appropriately". In addition, in section 2.1.2 we discuss the **special role of agriculture as part of the ruralisation process**. Van der Ploeg et al. (2008) note how using the concept of territorial capital to assess different aspects of the rural economy potentially offers more nuanced understandings. They refer to the example of how farms contribute to rural economy, now generally described as having a declining importance. However assessed through the guise of territorial capital could reveal a more strategic role underpinning rural attractiveness and competitiveness; "Although the economic and social fabric of European rural areas is no longer centred on farming, the latter might remain a crucial prerequisite for the former" (van der Ploeg et al., 2008, p.15). Ventura et al. (2008) also argue **the multifunctional farm is a key source of territorial capital** in rural areas, producing a range of public goods, such as cultural landscapes.

This leads us to broader capitals frameworks, rather than focusing on specific types of capital, as a key analytical concept for the RURALIZATION project.

5.2 Conceptualisation

5.2.1 Community capitals framework

The 'Community Capitals Framework' sees **communities as systems** and identifies different types of **capital stock, flow and interaction** as important to assess in understanding the direction of change and development (Emery and Flora, 2006; Gutierrez-Montes et al., 2009; Flora et al., 2016).

Seven types of capital (see Figure 7) are distinguished as part of the community capital framework: natural, cultural, human, social, political, financial and built capital, forming a 'holistic' basis for analysis (Emery and Flora, 2006; Flora et al., 2016). This type of conceptualisation is a useful analytical lens that complements the need to take an 'integrated' view on regeneration, as outlined in section two. Key aspects of each form of capital are outlined in Table 5.

The community capitals framework is also linked to the social and spatial concept of community. Flora et al. (2016) outline two dimensions – where the idea of community is tied to a particular place, but also community can be tied to groups of people, the idea of 'communities of interest', which relates to particular groups not necessarily tied to place but who share a particular aspect of identity. Different forms of capital can also be possessed by individuals, but Flora et al. (2016, p. 15) argue "when working with a group seeking to

improve their collective well-being, it is useful to see them as community or group properties".

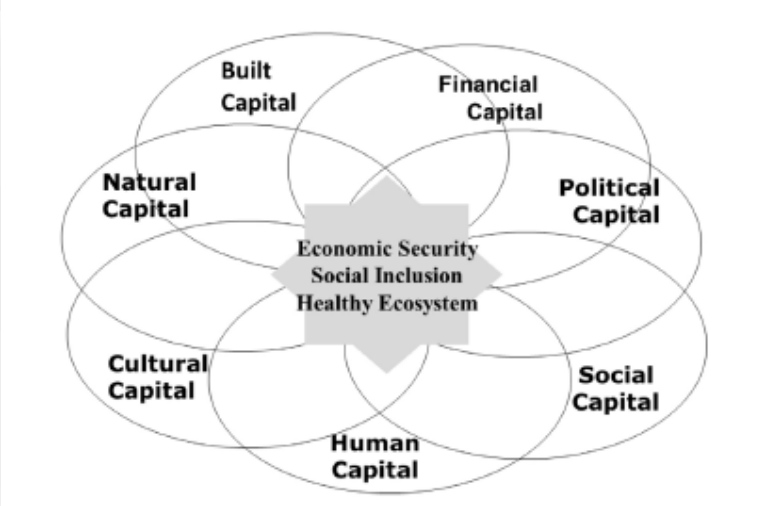

Figure 7: Community capitals framework

Source: Flora and Bregendahl, 2012

Type of capital	Core aspects
Natural capital	All renewable and non-renewable resources e.g. land, water, soil, forests, farm livestock, marine life, flora and fauna. Other capitals can degrade or enhance it.
Cultural capital	Attitudes and norms that influence outlooks and values and then influencing actions. Values and norms can also feed into the shape of regulations. Also includes more tangible and intangible culture such as traditions and language. Can be shared by people and across places, but also can differ among people and across places.
Human capital	Human potential e.g. talent, skills, knowledge, self-esteem, abilities, health and well-being. Can be developed informally or through formal education. Also wider services and feed into it such as health services.
Social capital	Capital embedded within organisations, wider social networks and wider informal connections. Relationships that enable working together towards shared goals. Trust is also an important part of social capital, which can take the form of closer (bonding social capital) or loose ties (bridging social capital).
Political capital	Empowerment and ability to influence change. Could translate into changes to policy and regulations or pressure to enforce exiting governance instruments. Ability to influence may be determined by the nature of governance e.g. bottom-up initiatives, multi-level governance.
Financial capital	Economic capital or financial resources possessed or accessible to for example enterprise, community organisations or wider rural population e.g. income, access to credit, tax incentives, grants. A mobile capital that is more straightforward to exchange and measure than other capital forms.
Built capital	Range of human-made fixed assets such as infrastructure and buildings. Also ownership can come in different forms (e.g. public, private or community).

Table 5: Seven types of community capital

Source: Developed drawing on Braithwaite, 2009; Emery and Flora, 2006; Copus et al. 2011a; Flora et al. 2016

Community capitals also have specific characteristics. It is the actual use of resources to generate further resources that is said to turn them into community capitals: "When those resources – or assets – are invested to create new resources they become capital" (Flora et al., 2016, p. 15). This can be referred to as the '**flow' of capital** (Emery and Flora, 2006). The seven forms of capital do not exist in isolation, they intersect and influence each other. Natural capital for example can be used to generate economic capital. Research using the community capitals framework can take specific interest in one form of capital. However if focused on analysis of one type of capital, the other capitals will come into the assessment as **capitals influence each other**. It is also argued that if one type of capital is over-emphasised this will lead to imbalanced, unsustainable development "When one capital is emphasised over all others, the other resources are decapitalized, and the economy, environment, or social equity is this compromised" (Flora et al., 2016, p. 15). This also helps to highlight that **capitals have a particular weight, volume or stock**. They also have a temporal dimension and there is a 'legacy' in terms of capitals passing to the next generation. Capitals can also be influenced and changed by wider processes of change, from major trends such as globalisation, to changes in governance (Flora et al., 2016). Overall, because of these particular attributes of community capital it is argued: "The Community Capitals Framework (CCF) offers a way to analyze community and economic development efforts from a systems perspective by identifying the assets in each capital (stock), the types of capital invested (flow), the interaction among the capitals, and the resulting impacts across capitals" (Emery and Flora, 2006, p.20).

Emery and Flora (2006) also link the idea of '**spiralling up'** or a virtuous spiral of community development with building more than one type of capital. This idea echoes aspects of territorial capital, where it is understood as the collection of local assets that underpin local success (discussed further in section 5.2.2 below).

> Spiralling up links to the notion that success in building one form of capital can lead to, and mean it is easier to, have success in building others: "Spiralling-up reverses declines in assets through a similar cumulative causation process in which asset growth becomes a self-reinforcing cycle of increasing opportunity and community well-being" (Emery and Flora, 2006, p. 22) .

Enabling the **"flow of assets across capitals**" is important to the spiralling up process (Emery and Flora, 2006, p.22). It is argued: "…capacity cannot be measured merely by the increases in stocks of assets within the specific capitals, but requires an increase in the flow of assets that build stock in additional capitals" (Emery and Flora, 2006, p.22). Importantly however they also argue this process is initiated not by more tangible forms of capital, such as financial or built capital. In the specific case study context they look at, Emery and Flora (2006) find that social capital is of critical importance as an **'entry point'** to the spiralling-up process, but also that cultural capital is important to enable the continuing of the upward spiral (see

Figure 8). That said, it does not mean more tangible/material forms of capital, such as financial or built capital are not important, they can also be vital as part of the spiralling up process. The centrality placed on social and cultural capital also must be further questioned in different circumstances and not taken for granted. For example in a community-based tourism development context, Kline et al. (2019) finds that built capital is a key catalysing resource, but in addition the process of its development is also key to what other capitals are generated from it and the crucial importance of community engagement. More generally, the place of material (tangible) resources versus immaterial (intangible) resources in overcoming rural decline is the subject of ongoing discussion, with some emphasising that the immaterial (e.g. social and cultural capital) can be the more decisive factor in sustaining regeneration. For example social capital can enable rural regions to develop interactions with the external environment mobilising resources that help overcome local limitations (Li et al., 2019).

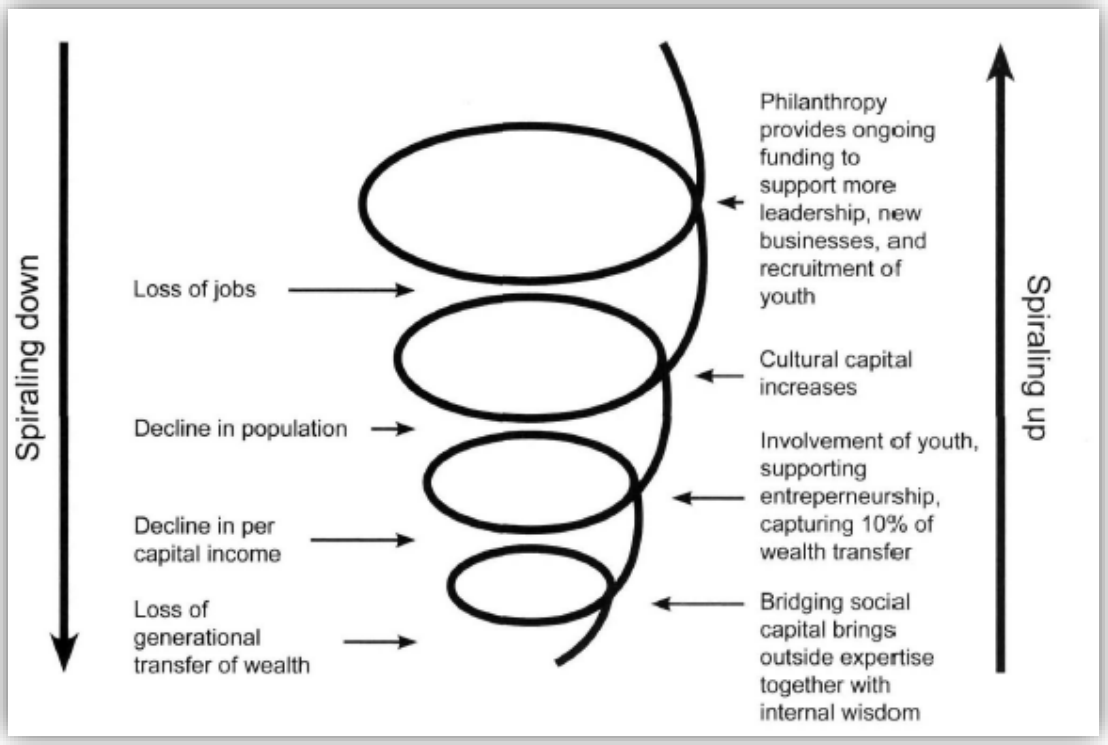

Figure 8: The spiralling of capital assets

Source: Emery and Flora, 2006

Applications of the concept in other contexts tease out further dimensions of spiralling up and seek to examine "what capitals should be strengthened and in what order" (Flora and Gillespie, 2009, p.120). Further to this, some suggest greater deepening of the community capitals framework is needed.

While spiralling up is attractive for its straightforward logic, Pigg et al. (2013) argue there is need for deeper understanding of how capitals interact which is more complex than explained by this process. Pigg et al. (2013) suggest for instance there may not be one capital that acts as the catalyst, but a combination (e.g. improving natural capital may also need political capital to influence a change in governance. Or leveraging value from improved human capital may also need changed social capital to realise its value). Nevertheless, it is through application of this framework in specific RURALIZATION project contexts (such as in relation to rural newcomers, succession, new entrants to farming and access to land) that such processes can be revealed and find evidence that can facilitate rural regeneration. Drawing on aspects of other linked concepts, such as territorial capital (discussed in the next section), may also provide ideas for ways forward.

5.2.2 Territorial capital

Territorial capital is a useful concept that at its core is about assets, or termed differently, resources and capacities, that underpin local success. Its use as a framework for analysis of regional economic and rural development processes is highlighted, as well as the scope and importance of further conceptual exploration and more specific pinpointing of its dynamics (e.g. Copus et al., 2011a; 2011b; Copus and van Well, 2015; Tóth, 2015). The distinction between 'traditional' and 'innovative' territorial capital for example (discussed further below) makes this concept of potential interest to RURALIZATION to help the project explore key drivers of rural regeneration.

The work of Camagni (2008, 2009) and Camagni and Capello (2013) is particularly important in the theoretical definition of territorial capital. More specifically in the rural development context work carried out as part of the European projects ETUDE (see van der Ploeg and Marsden, 2008) and EDORA (e.g. see Copus et al., 2011b) and PURR (see Adams et al. 2012) are useful.

Territorial capital encompasses **micro scale, local assets, both hard (e.g. landscape, physical infrastructure) and soft (e.g. entrepreneurial culture, business network structure**) (Copus et al., 2011a). Terms such as assets, resources, capacities and endowments can also be used in discussions on territorial capital (Böhme et al., 2011; Copus et al., 2011a). The concept can be aligned with endogenous and neo-endogenous approaches to development (Bodnár, 2013; Ventura et al., 2008). Territorial capital was first discussed in 2001 when the OECD Territorial Outlook referred to the distinct and specific capital that each territory holds as 'territorial capital' which contributes to more endogenous growth. Places with specific territorial capital complementary to certain types of investment can expect higher return on this investment compared to other places without this territorial capital: "allowing investment to gravitate to the areas where they are most profitable ensures a better overall allocation of resources and therefore higher and more lasting growth" (OECD, 2001, p.17).

Camagni and Capello (2013, p.1387) put forward a general, condensed definition of territorial capital as: "**the set of localized assets - natural, human, artificial, organizational, relational and cognitive – that constitute the competitive potential of a given territory**". As the preceding list suggests, local assets through the lens of territorial capital does **not just** see more **traditionally valued assets such as capital and labour** as important, but also **intangible factors** are also **important assets**, such as **networks, knowledge, norms and social bonds**. Camagni and Capello (2013, p.1386) explain and illustrate this well: "Local competitiveness is interpreted as residing in creativity rather than in the pure presence of skilled labour; in local trust and a sense of belonging rather than in pure availability of capital; in connectivity and relationality more than in pure accessibility; in local identity, beyond local efficiency and quality of life". Territorial capital shares similarity with the asset based approach to local and community development (Camagni and Capello, 2013).

Tóth (2015) identifies the human, social, cultural, environmental forms of capital most often used as part of capital frameworks, but a total of 20 types (built, cognitive, creative, cultural, ecological, economic, entrepreneurial, environmental, financial, human, infrastructural, institutional, natural, physical, political, produced, relational, settlement, social and symbolic) explored across the studies are identified. But the theoretical description is more abstract (e.g. Camagni, 2008, 2009; Camagni and Capello, 2013). Within the territorial capital matrix, nine types of territorial capital are proposed (also see Figure 9).

- a: Public goods and resources
- b: Intermediate, mixed-rivalry tangible goods
- c: Private fixed capital and toll goods
- d: Social capital
- e: Relational capital
- f: Human capital
- g: Agglomeration economies, connectivity and receptivity
- h: Cooperation networks
- i: Relational private services

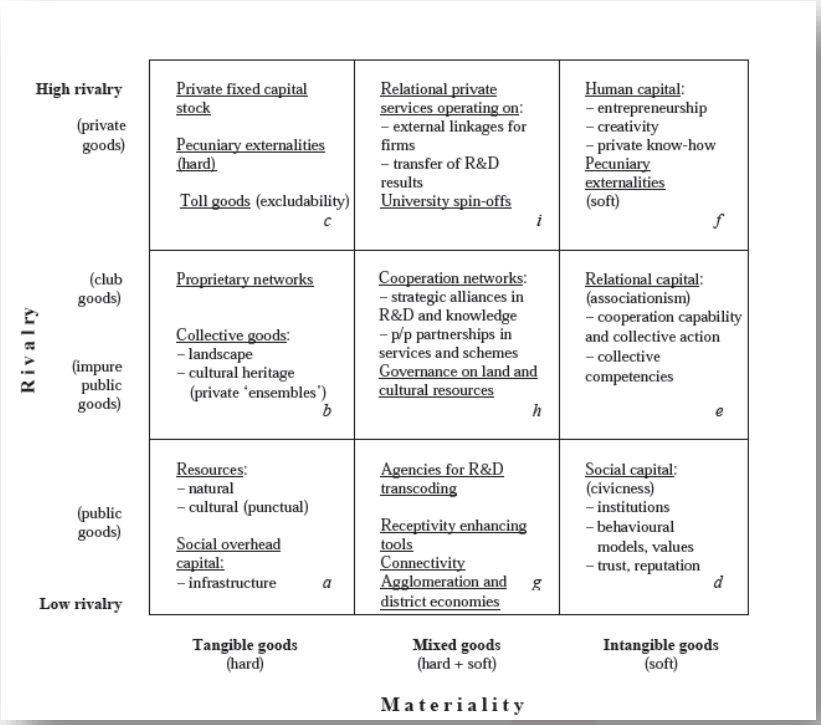

Figure 9: A theoretical taxonomy of the components of territorial capital

Source: Camagni, 2009

Territorial capital is a range of relational assets. The potential interaction between types of assets is an important part of how territorial capital is conceptualised (Camagni and Capello, 2013; Perucca, 2014). Drawing on the work of Camagni (2008, 2009) and Camagni and Capello (2013), two further important dimensions are described, rivalry and materiality.

Materiality relates to tangible (hard) and intangible (soft) goods, and a 'mixed' form that sits in between. As discussed above, the **asset-based approach to community development identifies seven core community capitals that it is argued capture the 'material' dimension of territorial capital** (Copus et al., 2011a; Dax, 2014). Acknowledgement of the non-material dimension is important to territorial capital. Camagni and Capello (2013) outline that within **territories there is an interconnected web of local norms, values and accepted practices that make territories collective actors in themselves**. This creates a different viewing point that passes "from a micro-behavioural approach to a meso-institutional one considering crucial learning processes as taking place on a collective basis, deeply rooted in the local public and private governance and cooperation context" (Camagni and Capello, 2013, p.1386).

The work of Camagni (2008, 2009) and Camagni and Capello (2013) advance another dimension to territorial capital, the notion of **rival goods**. In simple terms, it can be described as the distinction between public and private goods (Dax, 2014). The rivalry dimension relates to goods that possess the feature if they are consumed by one consumer this prevents consumption by another simultaneously. Private and public goods and the intermediary category of 'club goods' possess this feature. High rivalry is attached to private goods, medium rivalry to club goods and low to public goods.

Put together, these two dimensions and three types of goods in each are related and presented as a matrix (see Figure 10). This sees traditional sources of territorial capital situated in the four corners of the matrix or the "traditional square" composed of "high and low rivalry, tangible and intangible goods" (Camagni and Capello, 2013, p. 1387). It is the intermediate factors that make up the **"innovative cross"** that it is argued a new focus should particularly be placed on where mixed goods exist that combine tangible and intangible, public and private.

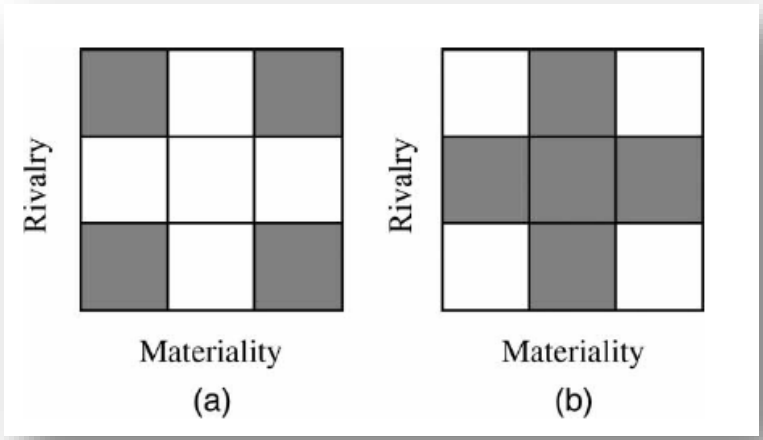

Figure 10: Traditional and innovative factors of territorial capital: (a) the 'traditional square and (b) the 'innovative cross'

Source: Camagni and Capello, 2013

Observations by Dax (2014) include that the **innovative cross also overall is suggestive of a greater need for networking in regional development**. What can nurture this it is argued is captured by **the 'rural web' concept** put forward by van der Ploeg et al. (2008) as part of the ETUDE project. The rural web is theorised as being composed of six interconnected dimensions shaping rural development processes (endogeneity, novelty production, sustainability, social capital, institutional arrangements and governance of markets) (see Table 6). The different web processes are understood as similar to specific types of capital (e.g. human capital and novelty production, ecological capital and endogeneity/sustainability) and different forms of capital overall understood as territorial

capital (van der Ploeg et al., 2008). Marsden and van der Ploeg (2008, p.225) also describe the **rural web at a more abstract level as "more or less integrated whole of different forms of 'capital'**: ecological, economic, social, cultural and human capital. If, within this specific whole, ecological capital (and the associated forms of co-production, landscapes, bio-diversity, etc.) plays a prominent, region-specific and integrating role, we might collectively summarize these different forms as territorial capital".

Endogeneity	The degree to which rural economies are (i) built upon local resources, (ii) organized according to local models of resource combination, and (iii) strengthened through the distribution and reinvestment of produced wealth within the local/regional constellation.
Novelty	New insights, practices, artefacts and/or combinations (of resources, technological procedures, bodies of knowledge, etc.) that carry the promise that specific constellations function better.
Social capital	''[T]he norms and networks that enable people to act collectively'' (Woolcock and Narayan 2000), or more specifically, the ability of individuals, groups, organizations or institutions to engage in networks, cooperate and employ social relations for common purpose and benefit.
Market governance	Institutional capacities to control and strengthen existing markets and/or to construct new ones.
New institutional arrangements	New institutional constellations that solve coordination problems and support cooperation among rural actor.
Sustainability	Territorially based development that redefines nature by re-emphasizing food production and agro-ecology and that reasserts the socio-environmental role of agriculture as a major agent in sustaining rural economies and cultures.

Table 6: Domains of rural development

Source: Marsden, 2010, adapted from van der Ploeg et al., 2008

Territorial capital **originates in a number of different ways**. A numerous, wide variety of factors determining a place's territorial capital are outlined by OECD (2001, p.15): "geographical location, size, factor of production endowment, climate, traditions, natural resources, quality of life or the agglomeration economies provided by its cities, but also may include business incubators and industrial districts or other business networks that reduce transaction costs". It also describes a series of social and cultural factors as important "untraded interdependencies" such as understandings, customs and informal rules that enable economic actors to work together under conditions of uncertainty, or the solidarity, mutual assistance and co-opting of ideas that often develop in clusters of small and medium sized enterprises working in the same sector (social capital)" (OECD, 2001, p.15).

Finally, an even more elusive aspect is described: **"an intangible factor "something in the air"**, called the "environment" and which is the outcome of a combination of institutions, rules, practices, producers, researchers and policy-makers that make a certain creativity and

innovation possible" (OECD, 2001, p.15). Copus and van Well (2015, p.69) argue this aspect of territorial capital is similar to understandings of multilevel governance as "not only vertically nested networks of administrative actors, but also aspects of intersectoral integration…in essence the institutional capacity for sectoral and jurisdictional coherence". But they also discuss the concept of territorial governance "employing a territorial approach in development strategies and decisions" (Copus and van Well, 2015, p.69) and how it is distinguished from multilevel governance and how this governance approach facilitates building territorial capital, particularly by "being adaptive to changing contexts, and…addressing the place-based/territorial specifies and characteristics" (Copus and van Well, 2015, p.69).

Despite the wide use of territorial capital concept in policy contexts, comprehensive, clear theoretical definition of territorial capital is lacking (Camagni and Capello, 2013). Copus et al. (2011a) also observe that the material dimension of territorial capital is more evident in the community capitals, asset based approach. Camagni and Capello (2013, p.1399) also explain what distinguishes them: "The community development concept is oriented to finding the 'assets' (or better negative specificities) triggering appropriate policies through which social and economic conflicts can be overcome. The territorial capital concept, on the other hand, is used to identify the assets on which actual local success is based". Copus et al. (2011a) explore how the matrix might be completed in a rural policy context (see Figure 11). They also note that the boundaries between elements present difficulties in real world contexts to fit practical activities within, but nevertheless argue the approach offers potential for important insights.

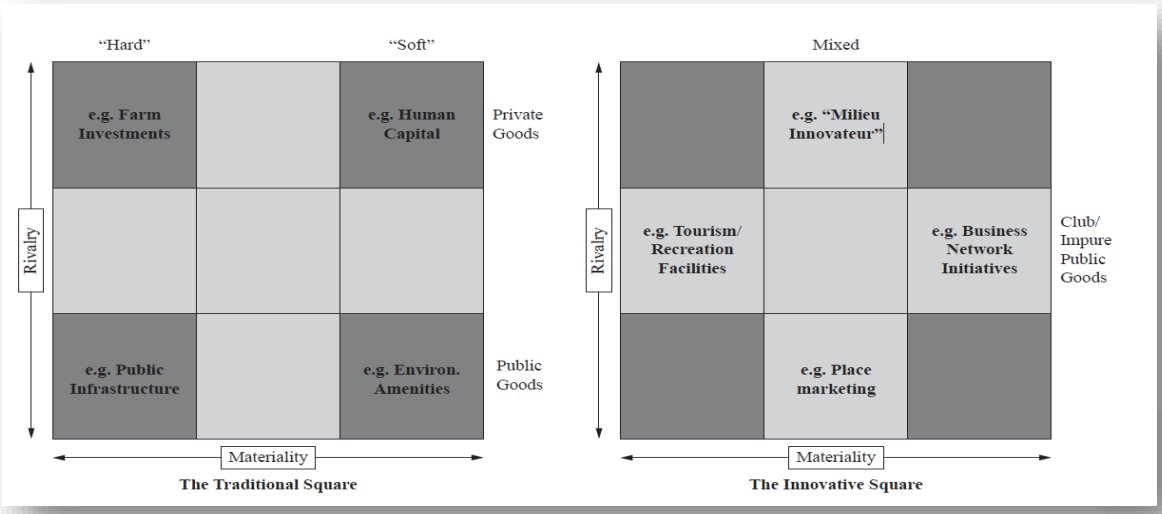

Figure 11: Application of the Camagni territorial capital framework in a rural policy context

Source: Copus et al., 2011a, from Copus 2010

Overall, territorial capital raises interesting questions about the characteristics of capital resources. Bringing aspects of different capital conceptualisations (community capital, territorial capital) together could prove fruitful for the RURALIZATION project.

5.3 Critique and implications

5.3.1 A synthesis – rural capital?

Drawing on both the community capitals framework and territorial capital, Bosworth and Turner (2018) puts forward the concept of **'rural capital'** as a framework to assess how rural businesses use and create capital. It builds on Castle's (1998) original proposal of the concept. Castle (1998, p.626) outlined rural capital as composed of four components (natural, human, social and 'man created' physical capital) with its development and conservation viewed as central to how rural people address: "common concerns and pursue their aspirations". Bosworth and Turner (2018, p.3) suggest **rural capital is a form of territorial capital** that is specific to rural territories allowing room for "particular rural identities and rural assets drawn from the environment as well as from rural communities. Together these shape the rural character of the intangible networks, norms and behaviours described in the mainstream territorial capital literature". Bosworth and Turner (2018, p.3) add 'symbolic capital' to expand an eight capitals framework. In this context, symbolic capital is defined as specifically relating to rural business, which is the: "rural identity that can be conferred to the business".

Capital frameworks offer an **adaptable framework that can be adjusted for different analytical needs**. Capitals can also be teased out in concrete ways that help to evaluate their stock and flow. For example, Wilson (2008) presents a set of 'indicators' of economic, social and environmental capital (see Table 7 below). The community capitals framework provides a potentially useful method to systematically assess the impact of particular initiatives on rural regeneration, looking beyond main goals to assess wider impacts. For example, Emery and Flora (2006) evaluate changes in the seven types of community capital generated by a specific community development programme in Nebraska.

Capital frameworks are malleable. Different aspects can be brought together for analytical purposes. Potential also exists for deepening of the concept of 'rural capital', drawing on thinking relating to community and territorial capital, in the different RURALIZATON empirical contexts – e.g. rural youth dream futures, rural newcomers, new entrants to farming, farm succession and access to land. For example, the outcomes of RURALIZATON's dream futures may be translated into a range of specific capitals needed in rural areas to make these dreams reality. The centrality of natural capital in the context of access to land is clear. However, accessing and maintaining access to land is interlinked with financial and human capital in particular.

		Strongly developed capital	*Weakly developed capital*
Multifunctionality of rural communities	Economic capital	• Economic well-being • Diversified income streams (e.g. pluriactivity) • Low dependency on external funds (e.g. agricultural subsidies) • Multifunctional businesses • Integration into global capitalist system (?) • Happiness (?) • etc.	• Poverty/debt • Over-dependency on agricultural production • Poor infrastructure • High dependency on external funding (e.g. subsidies; remittances from abroad) (?) • Communities as net importers of food • etc.
	Social capital	• Close interaction between rural people (tight-knit communities) • Availability of skills training and education • Good health and sanitation • Multifunctional services • Good communication between stakeholder groups • Female empowerment/empower ment of ethnic minorities in rural areas (?) • Open-minded communities (ability to accept change) • Good and transparent land owner ship regulations (control over means of production) • Rural stakeholders in control of development trajectories • Strong governance structures at multiple geographical scales (democratic participation) • etc.	• Outmigration of young people (greying of rural communities) • Service deserts • Lack of leadership • Lack of control over destiny of rural community • High death rates and low life expectancy • Poor communication between stake holder groups • Female dependency/gender- or ethnically-based lack of self-determination • Weak land ownership patterns (e.g. high levels of tenant/ dependent farmers) • General dissatisfaction with rural community pathways • Weak governance • etc.
	Environmental capital	• High levels of biodiversity • Good water quality and availability • Sustainable soil management • Predictable agricultural yields • Sustainable management of envi ronmental resources in rural community • Multifunctional environmental resources • etc.	• Soil degradation • Desertification • Salinization • Poor water quality and availability • Uncertainty over agricultural yields • etc.

Table 7: Multifunctionality and global indicators (selection) of well- and poorly developed economic, social and environmental capital

Source: Wilson, 2008

5.3.2 Capitals frameworks and resilience

Resilience and capitals frameworks are potentially complementary concepts for RURALIZATION. For example, research by Wilson (2010) (also discussed in section three) constructs community resilience around the idea that rural areas should be multifunctional places with economic capital supporting well-being, well-developed social capital and strong, sustainably managed environmental capital. **Realising the potential of rural innovation** is also complex and **linked to** what can be understood as **a range of different types of resources**. For example, drawing on the discussion of innovation in section four, we can

understand **innovation occurring as part of a system of framework conditions**, such as human capital (knowledge and skills), cultural capital (innovation culture), relational capital (local and translocal networks), financial capital (funding). Pairing the concept of adaptation/adaptive capacity emerging from resilience thinking, with the community capitals framework, could help to explore what supports this capacity (Young, 2016).

Capital frameworks are also potentially attractive for the potential to overcome issues highlighted in resilience research and operationalising resilience thinking in empirical research to better understand what drives resilience.

Resilience calls for: "analysis at different scales, locales, and with reference to various combinations of economic drivers and policies" (Roberts et al., 2017b, p.357). For example, in the context of generating local competitiveness, territorial capital's advantage is that it does not understand this in terms of "cause–effect, deterministic relationships", but "should give way to other kinds of complex, inter-subjective relationships which impinge on the way economic agents perceive economic reality, are receptive to external stimuli, can react creatively, and are able to cooperate and work synergetically" (Camagni and Capello, 2013, p.1386-7). We might also extend this potential also to the community capitals framework. The idea of 'spiralling up' might be linked to resilience – where the balance of capitals that leads to spiralling up creates the conditions for more resilient regeneration.

5.3.3 Certain rural assets appear to need greater policy attention

OECD (2001) argue policy and supports aiming to encourage balanced territorial development should focus on the **development of territorial capital in all its forms, tangible and intangible**. This is contrasted with supports that promote 'artificial development' and give enterprises tax or financial incentives to encourage investment, which it is argued encourages "enterprises to invest in areas where they would not otherwise have invested" and "does not lead to development in the long term, since it does not ensure that investments match the territorial capital" (OECD, 2001, p.17).

There has however been **some debate around the absolute and relative importance of different types of resources (both hard/tangible and soft/intangible) in rural development**. The importance of soft assets has been less well acknowledged and some argue needs more focus. For example, the IAREG project argues that because of their presence almost everywhere, physical resources are less important as drivers of regional growth and that more 'soft', non-material resources (e.g. human, social and knowledge capital) or 'intangible assets' have grown in importance (Suriñach and Moreno, 2010; 2011). In the Italian context Perucca (2014) finds assessment of territorial capital helps to explain regional growth differences and when different types of capital are compared, tangible assets alone do not lead to growth but only in combination with intangible, such as social capital.

In relation to place-making in the small town context, Csurgo and Megyei (2016) identify the importance of both intangible (e.g. identity) as well as tangible (material resources,

institutions) dimensions in how place-making constructs place and how they combine in different ways in the place-making process. A crucial issue that impacts place-making and its capacity to lead to place-based innovations are conflicts around local symbolisation and how the local place is represented. For example this might be based on local nature, traditions or more widely the rural idyll and become embedded in place-based marketing such as of local food, festivals and tourism. Symbolisation (in capital terms might be understood as cultural capital) is at the core of place-making and hence a crucial issue for the effectiveness of strategic place-making.

It is also observed that **rural policy has tended to focus on assets on the 'hard' side of the matrix and 'softer' aspects need greater attention** to support rural competitive potential and more balanced territorial capital (Copus et al., 2011a; Dax, 2014). For example, intangible assets can include "human and social capital, institutional capacity, entrepreneurial culture, and networking of various kinds" (Copus et al., 2011b, Foreword). Arguing a fit with aspects of territorial cohesion and a place-based approach to policy, Copus and de Lima (2015, p.3) argue "the focus (and weight of public/EU funding) should shift away from supporting the competitiveness of agriculture, away from compensation for provision of countryside public goods, and away from city-region integration, towards supporting the various (regionally specific) development potentials, building upon the full range of assets: natural, material and less tangible (human, cultural and social) capital". That said, this outlook also needs to acknowledge exceptions can arise. Tangible infrastructure in some newer EU Member States can still be an issue (Copus et al. 2011b). Broadband infrastructure and the digital divide is also a wider rural issue (Vironen and Kah, 2019). Rather than identifying either hard and/or soft as important, Dax (2014) point to the importance of a combination of assets from different parts of the territorial capital matrix - cooperation networks, relational capital and social capital. Supporting the 'intangible' is also complex, and still needs to be better understood. Perucca (2014, p.557) note: "the local accumulation of non-tangible assets is much more complex to understand and to stimulate compared with the setting-up of new physical infrastructures".

This discussion starts to bring to light complexity and how potentially rural entrepreneurship needs a particular combination of capital assets while new entrants to farming a slightly different combination. This also may be constructed differently in different rural area types, such as remote rural and intermediate rural areas closer to urban areas. It is this type of question that RURALIZATION can seek to offer important insights on – the combinations of assets that can support rural regeneration in relation to rural youth, rural newcomers, succession and new entrants to farming.

5.3.4 Promising assets, but balance needed

The importance of territorial capital to rural economies is emphasised for a number of reasons. OECD (2001) argue focusing on territorial capital underpins territorial policy aiming to support endogenous development where all region types can capitalise on and maximise their inherent development opportunities by "making the most of all the advantages a region and is constituent parts (for example cities) have, and also by developing new assets" (OECD,

2001, p.24). Investment is attracted by place-based assets or distinctive territorial capital which it is also argued makes enterprise more rooted in place (OECD, 2001). But Copus and de Lima (2015, p.7) highlight that **place-based assets are vital to harness and develop but a sole emphasis on 'place-based' growth is risky**: "concentration upon local, endogenous processes and territorial capital, and insufficient acknowledgement of the crucial role played by exogenous linkages and relationships".

The findings of the EDORA project highlight that territorial capital is an important resource to enable rural areas to effectively participate in 'translocal' networks, also highlighted as important to rural innovation (see section four). It is argued intangible assets are most important: "crucial to the capacity of each rural locality to develop 'translocal' networks through which information, which is the key to innovation and growth, is transmitted" (Copus et al., 2011a, p.131). The findings of the EDORA project also highlight that territorial capital is an important resource to enable rural areas to respond to exogenous drivers of change. A number of meta-narratives of rural change acting as exogenous drivers are identified which can run alongside each other in rural areas: The Agri-Centric meta-narrative, the Rural-Urban meta-narrative and Meta-Narrative of Global Competition and Capitalist Penetration. It is argued: "Their impact is mediated by each rural area's unique assemblage of territorial capital, with the result that local consequences are highly individual, and micro-level patterns exhibit strong differentiation. The **exogenous drivers (meta-narratives) are the consequence of deeply-rooted global socioeconomic trends** which may be considered effectively immutable (in terms of policy intervention). The **main "levers" for policy are therefore in the realm of territorial capital**" (Copus et al., 2011b, p.34).

5.3.5 Territorial capital and territorial cohesion

Territorial capital is used in context of debates on territorial cohesion and harnessing territorial capital is thought to be **important in achieving territorial cohesion** (Copus and van Well, 2015; Tóth, 2015). Territorial cohesion in itself is a policy concept conceptualised in many different ways, as made clear by conceptual reviews carried out for the IMAJINE and RELOCAL projects (Madanipour et al., 2017; Weckroth, 2018). The value of territorial capital to territorial cohesion is that it helps reconcile and support both regional cohesion and competitiveness (Tóth, 2015). Fratesi and Perucca (2018) note how regional policy with social goals such as addressing social exclusion and inequalities can in the medium term increase more intangible forms of territorial capital, which in the long run can contribute to economic growth. Camagni and Capello (2013, p.1384) emphasise the importance of, in the face of a globalised world and global nature of competition, the need to strengthen regional competitiveness to avoid "winners and losers among European regions". In this context they argue exploiting local assets or territorial capital plays a crucial role to strengthening competitiveness, development and growth and "allow regions to join the winning group" (Camagni and Capello, 2013, p.1384). In addition, analysis of territorial capital is said to raise "relevant policy implications, since each kind of asset requires specific measures and intervention" (Perucca, 2014, p.538).

6 Conclusion: Resilient, Innovative Rural Regeneration

The RURALIZATION project has an ambitious goal – to develop a novel perspective for rural areas to trigger a process of ruralisation as a counterforce to urbanisation. This is development towards a new rural frontier offering new generations stimulating opportunities for economic and social sustainability in a rural context. Rural areas should function as places where new rural generations can pursue their dreams. But the RURALIZATION project also recognises that we need to better understand rural regeneration issues to enable this process to be realised. Based on these guidelines, a number of central aspects to conceptualisation of the ruralisation process emerge:

- Underpinning ruralisation is the idea that generational renewal and rural regeneration go hand in hand. New rural generations (youth, newcomers, new entrants and successors in farming) are central to ruralisation.
- However, rural regeneration is needed to offer new generations opportunities for economic and social sustainability in a rural context. Regeneration should enable transformation, be it on a smaller or larger scale that allows places to reach their potential. Rural regeneration is more than just reversing decline, or trying to restore a previous state of development, but implies a process of transition and more positive reinvention or revival. Regeneration should be resilient to enable the continued renewal of population and economic activities in rural areas.
- Rural areas are a diverse space. The process of rural regeneration that must occur to enable ruralisation must be underpinned by an understanding of the diversity of rural areas. Regeneration should be place-based. Opportunities for regeneration can also differ depending on the specific type of rural region in spatial terms, as well as the assets it possesses. There must be room for multiple pathways to regeneration to enable ruralisation.
- Regeneration should also be multi-dimensional and integrated, seeking to develop mutually supportive measures that assist with alleviation of a number of aspects of decline. Again this should support resilient rural regeneration to enable the continued renewal of rural population and economic activities under the ruralisation process.
- Important to ruralisation is greater resilience of the rural population. But we must deepen our understanding of the conditions and drivers that can support this. Underpinning ruralisation is the idea that capital resources and innovation are central to generating new opportunities in rural areas that will support rural regeneration and ruralisation.
- Innovation is key to creating opportunities and solving problems in the rural economy. Innovation is a multi-faceted concept that links to new products and processes, as well as their adaptation and transfer. It is about improving how things are done, as well as addressing problems. Based on this understanding, innovation emerges as a key enabler of the ruralisation process. To enable ruralisation we must deepen our understanding of the innovation process in a rural context. We must also

deepen our understanding of how innovative practices may transfer to other rural areas to allow for adaptation to wider rural contexts.

- New generations are central to the ruralisation process which points us to the importance of human capital as a key resource for ruralisation. But in addition to this, for ruralisation regeneration is something complex, influenced by interconnected forces internal and external to rural areas. It also must be integrated. Multiple capitals in different contexts, combinations and concentrations are needed for ruralisation. The RURALIZATION project must seek to further understand this dynamic in the context of enabling youth, newcomers, new entrants and successors in farming to create and take up new opportunities in rural areas.

In addition to deepening our conceptualisation of the process of ruralisation, these conceptual guidelines will also help to direct our line of inquiry and provide tools to frame our thinking and analysis as part of the RURALIZATION project.

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